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HOW MAY THE TOPICS IN EXAMINATION FOR LICENSE BE BEST ARRANGED BY EXAMINING BOARDS?*

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Mr. President and Fellow Members:

The answer obviously must be: In such a manner as to achieve the results for which examining and licensing boards were instituted. What this constitutes, an apparently irrelevant and somewhat elaborate review of the causes operative in determining, not only the establishment of examining boards, but the type of examination they are respectively required by the various acts of assembly to conduct, is necessary for a correct solution.

Addressing ourselves to the consideration of the many-sided question the title presents, it must be constantly borne in mind that examining and licensing boards, by directly and legally controlling licensure, indirectly standardize medical education. They thereby serve an important function for the greatest good of the profession, and discharge the highest responsibility to the welfare of fellow man. That the answer is, therefore, comprehensive and complex, and appeals to the best judgment at our command, is evident.

As the type of examination, which law compels each board to conduct, possesses certain characteristics pertaining to medical education, as it prevailed prior to the era of the control of practice by legislation, the course of study leading to the degree, with its associated conditions and results, must be reviewed, in order that intelligent answer may be given to the question before us. This is essential, because the factors potent in establishing the type of existing medical legislation are still more or less operative in perpetuating influences proving obstructive to that progress in establishing "higher medical education," which the untrammeled and conscientious exercise of intelligent prerogative should be able to achieve without further delay.

It must be recalled that medical legislation became necessary in order to protect humanity from the fearful consequences of incompetent practitioners; that the possession of a diploma, conferring the degree and the right to practice, was possible to anyone, whether illiterate, and consequently incapable of comprehending the science, or the master of that system of medical education which was conventionally admitted to be sufficient. That so large a percentage of incompetent practitioners possessed the right to practice was, because the medical college indiscriminately conferred the doctorate, and thus proved false, not only to its moral obligations, but to corporation law, which granted its charter and established its existence. Diplomas were legal instruments for both good or evil, as the possessors were competent or not, and afforded protection for the unfit clinician, no matter how serious the results of his ignorance might have been.

Obtaining charters and becoming incorporated was a matter of such ease, and the enormous financial profits accruing from the business of "grinding out doctors" so alluring that "regularly incorporated medical colleges" sprung up on every hand, and thousands of graduates, technically styled physicians, were annually set free upon an innocently confiding and credulous public. The lax administration of this defective system became a firmly established conventionalism, and acquiescence therein by both the laity and profession proved a most fertile soil for the growth and development of those influences that have resulted in the enactment of such laws as we possess. It was only after years of the appalling disaster, which was a necessary result of the deeply-rooted, firmly established and debased commercial, and utterly inadequate system of medical education, that the era of medical legislation became inaugurated.

Acts of Assembly as molded by state influences are, therefore, more or less a control, not directly, be it observed, of medical education itself, but only of its results; their degree of efficiency is just in proportion as intelligence and principle dominate ignorance and moral obliquity. Why the various state laws differ so greatly in standard requirements is best known by those who were identified with effort exerted in securing Acts of Assembly, and the nature of those influences, when demonstrated as we proceed, will be recognized to have been then, as now, what has been fittingly designated, a debased commercialism. In its various manifestations it was applied to financial, educational and political powers, for the purpose of preventing the adoption of immediate and complete corrective measures.

For obvious reasons, medical colleges could not be remodeled, and the beginnings of successful reform were necessarily directed against its resulting incompetent yet technical doctor. It was recognized that if incompetent "M.D.'s" could not secure license, that fact would result in the failure and disappearance of the diploma mill! It would indirectly compel the medical colleges granting useless diplomas to so augment and improve their work as to insure the patronage of a large body of students whose fees would be essential to its existence. It would render medical education, in its broadest sense, what it should be, and ultimately result in eliminating from the undergraduate body, the hordes

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of illiterate, still too prevalent, and admit only those adequately educated. It would complete a defective curriculum, and demand those modifications in the field of work, facilities for study, teaching and practical training, that are essential for the graduation of the competent practitioner. Is it any wonder, then, that we are prepared to consider opposition to such a corrective by every medical college or indirectly interested institution of learning whose commercial interests, in the sense of money gain, would be less profitable in the pursuit of honest than dishonest methods, and to recognize why some state laws are compromise measures?

Are our laws, and the means of their administration, "the examination," fulfilling the purposes for which they were enacted and instituted; and if not, why not?

Let us here recall that which, with a stretch of conscience, will be designated the "medical curriculum," as it prevailed during the free reign of commercial medical education.

It was composed of the seven topics, anatomy, physiology, chemistry, materia medica and therapeutics, obstetrics, theory and practice of medicine and surgery. How these were taught is too painful a chapter to open, but as certain values were accorded some branches and the type of examinations therein was then, as now, somewhat alike, it possesses a direct bearing on our theme. These seven topics were the subject of a course of lectures extending over the ridiculously insufficient period of five months. This constituted a so-called year of medical college work, and after being repeated once, i. e., a professed study of medicine for two years, was followed with a farcical examination that was almost certainly passed by all, except the veritable dunce; receiving the diploma and—what shall be said?

The relevance of this allusion to our subject consists in its demonstration of the fact that illiterate students could memorize, not comprehend, and that the character of teaching was preëminently the same. There was an almost total absence of study and training in the applied features of the included sciences, and is not the memory feature the great defect of state examinations to-day? To emphasize this point, permit an illustration: A recognized authority, perhaps a teacher and author, is obliged to locate in a different state; it is necessary to undergo a state board examination, and in topics like anatomy, physiology, chemistry and materia medica, questions will be propounded that deal only with the merely abstract facts, as they were demanded of yore, not their applied features, and because these never-used phases are long since, necessarily and physiologically, forgotten, he technically fails, although practically merits, and should receive license.

The doctor recently graduating under the conditions of a merely memory system of medical training could repeat in masterly detail the names of arteries, and in the order in which they arise from the main trunk, or name the nerves composing a plexus, and repeat the symptoms and give the correct terms of the physical and diagnostic signs of acute lobar pneumonia, of typhoid fever, and yet, unless possessed of that essential knowing which is the result only of the educated perceptive faculty, would not, because he could not recognize them, if encountered at the bedside.

Does not the administration of medical law, as it is at present, while vastly improving the thoroughness of medical education as it was, at the same time perpetuate, to a certain degree, the very evils it was intended to correct and overcome?

To be more explicit, medical legislation has achieved grand results in bettering teaching and also by requiring the memorizing of a wider field, and a more thorough mastery of such a curriculum as existed. In some states, by means of the scope and type of examination, it has brought about partial training in the application of the principles of medical science. The laws vary from one another in almost every state; some require a specifically defined preliminary education in addition to the medical, while the latter unfortunately frequently differs greatly in degree, even in a given state; again, a few admit candidates to examination who need not have obtained the degree! When the memory characteristic of state examinations is contemplated, and the vastly differing standard requirement is remembered, it is very apparent how the administration of state law must, of necessity, entail not only hardship but injustice upon the competent practitioner who may be a candidate for licensure in this or that commonwealth. These very conditions necessarily limit the territory of license right and prevent recognition of one state by another! In arranging topics for examination, examining boards can accomplish much in overcoming these serious defects. The latitude of prerogative possible in adjustment centers around the distinctively medical character of our function. The significance of this will be apparent when reference is had later to an attempt made in Pennsylvania by commercialism to circumvent the specifically medical exactions of the Act governing practice. Corrective amendment of these defects of medical law is still a dangerous resort, and it is better for examining boards to arrange the topics in examination for license in such a manner as to approach uniformity of standard rather than attempt to modify existing statutes. This means much more than at first appears, and suggests whether it be done so as only to obtain the best possible results from the existing inadequate system of medical education, i. e., to have it remain as it is, or in a manner that will indirectly compel the colleges to so modify the scope of study, methods of teaching and practical training as to enable candidates for licensure to pass state examinations which will, in reality, be examinations that actually demonstrate an adequate knowledge and comprehension of the principles of medical science, and the possession of a sufficiently cultivated skill in its art to merit the legal instrument that declares them so to be.

It seems strange, yes, more than strange, that that science which underlies the most important principles indissolubly associated with man's highest achievements, whether relating to social, commercial or family affiliations, has, until the present, been permitted by both the profession and laity to be subjected to the basest abuses of unprincipled commercialism; diseased by absurd "pathies" and "isms," the outgrowth of culpable ignorance and morbid emotionalism; its progressive growth and development seriously retarded by perverted religious fervor and degraded political power; and law prostituted to the low level of affording protection to medical fraud and crime.

The National Confederation of State Medical Examining and Licensing Boards represents the recognition by the laity and profession of the conditions outlined, and exists because of the corrective and protective laws this recognition culminated in having enacted. It stands exponent for the conscientious and impartial administration of those laws and is, therefore, the embodiment of the legal authority that must, sooner or later, establish upon a sure and permanent foundation a sys-

tem of education in the science and art of medicine which will, in every sense, result in the competent practitioner.

The Confederation, after a decade of experience, is able to study the many phases of its work, and intelligently cope with the complex problem presenting in the title.

One function common to all boards in the earlier period of our existence was to refuse license to a large proportion of candidates who were too illiterate to comprehend medicine. These, however, possessed the right to be examined in medicine, because of the defect of the Act of Assembly, which did not have supervision over general educational qualification, and, as they possessed diplomas bearing the signatures of the trustworthy and honored faculty who so conscientiously discharged the duties supposed to be observed by the regularly incorporated medical college, were eligible for examination for licensure.

Happily, those laws which did not standardize preliminary education, enabled refusal of licensure to such as could not, because of mental inability, possibly prove themselves to be fit to assume the imposed responsibilities which these worthless diplomas, bearing signature of like worthless professors, declared them to be.

We thus confront another feature requiring recognition in solving the problem before us, to-wit: the relation of general education to medical. This must be observed in arranging the topics for examination. It also discovers another element active in commercial opposition to the establishment of effective reform in medical education, i. e., that of the outside institutions which might apparently (mark the word "apparently") have some claim for recognition by the medical college, because of those fundamentals which in name only are common to each. Our experience also demonstrates that the degree of M.D. is conferred in some states by colleges (regularly incorporated) which do not include as many topics as the higher standard of qualification necessitates; also after terms of college work, varying from about five months in each year to more than eight, while some few still grant diplomas after indulging in that reprehensible practice of admitting to advanced standing in their so-called four-year course, graduates of pharmacy, biology, dentistry, veterinary medicine and what not.

A decade of experience with these diverse conditions and standards makes plain one stupendous fact, viz., there is not, in the pedagogic sense, a medical curriculum! This fact not having been officially proclaimed, even if but vaguely recognized, is one reason for the question our title presents. The M.D. degree, the diploma, it is now superfluous to affirm, still represents anything from that ignorance of medicine, born of illiteracy, to scholarship in both general and medical education, and to determine in which category the candidate for licensure is to be placed, is the especial function of the state medical examination!

The various state laws include more or less of the standard requirement approximating the essential, and each particular examination more or less completely fulfills its function, but at best results in licensure of greatly varying degrees of efficiency so that, as medical education prevails to-day, a license privileges practice only in the state by which it is granted. There are states that to-day recognize the diploma of certain accredited colleges, and issue license without any examination! That which is admittedly the medical curriculum of to-day comprises the seven branches above named, and, in addition, more or less of the "ologies" that have assumed the proportion of "specialties," but with all, is separable into two parts, the so-called fundamental, including anatomy, physiology, chemistry and materia medica, and the practical, namely, pathology, "practice," obstetrics, surgery and therapeutics, and such outgrowths as gynecology, ophthalmology, otology, rhinology, laryngology, neurology, dermatology, pediatrics, and several minor specialties cropping out of these. Hygiene, medical jurisprudence and toxicology are included in some courses leading to the degree, and only by some of the state examinations.

How these topics may be best arranged requires consideration of one other very important factor that resulted in Pennsylvania, at least, in an attempt to so hamper the administration of its medical law that, had it succeeded, a severe blow would have been dealt to further progress in higher medical education and much done to perpetuate the inadequate system of teaching the Act of Assembly was intended to correct. The factor assumed formidable shape in claims being made for work in the so-called fundamentals, which, in name, constitute branches in courses of study leading to certificates and degrees in biology, arts, science, dentistry, veterinary medicine and pharmacy, as well as in medicine. This resulted in graduates of these varied pursuits being admitted to the second year of the exacted four years of exclusive medical study. The commercial medical colleges assumed the right to consider this type the equivalent of a first-year medical student, and with the understanding that certain branches of the first year's work which biology, dentistry, pharmacy, etc., did not include, be "made up" during the second year, granted "advanced standing," and matriculated them as second-year medical students. Observe that by so doing the medical college assumed the right to pronounce as identical with the study of medicine that of biology pharmacy, etc., and that by granting advanced standing to such graduates it opened the medical college door for the admission of the illiterate because, as should be well known, schools of dentistry, pharmacy and veterinary medicine did not exact matriculation examinations, which were a test of essential adequate preliminary training. In this manner those state medical laws that required general educational qualifications as a condition for the pursuit of medical study were capable of being circumvented and the degree of M.D. could, by the unwarranted assumption, become obtainable in three instead of four years. Inquiry discovered that seldom, if ever, were these "make ups" exacted. Emphasizing what is known to all that, the time necessarily occupied in acomplishing the work of one year absolutely prevents students from simultaneously carrying a portion of that of another, demonstrates the impracticability of such a scheme, and is so apparent as to need nothing but emphatic condemnatory mention.

Reference to a defect in the Pennsylvania law will indicate what all this means in arriving at a solution of the question our title propounds. The Act required four full years of the study of medicine in order to obtain the degree, and therefore admits to examination for licensure only those who have obtained the diploma under these conditions. It unfortunately reads that three of these years must have been spent in different years in a "regularly incorporated medical college," but does not provide for that fourth! It is now easily perceived why the commercial medical college arrogated to itself the right to dub work above mentioned, the *bona fide* study of medicine, and offered inducements to any institution whose course of study happened to

include one or more of the sciences constituting the medical curriculum to coöperate in the effort to secure its graduates for matriculation as advanced students. What happened when the writer, in his official capacity, disputed the legality of this assumed right to circumvent the law, and confer the doctorate by a short-cut process? A resort to sophistry. It is the study of the nature of this sophism that bears most especially upon the solution of our problem. Please observe that anatomy as a science is pursued in some phase or other and in varying degrees in art and biology and is required by some literary colleges from candidates for the A.B. degree, hence these institutions could, on this basis, claim certain qualifications for their graduates about to enter the medical college and attempt to secure advanced standing. Physiology and chemistry are included under the same conditions and, therefore, any institution teaching these, no matter how superficially, could have extended to it, and did, by the commercial medical college, the same privileges of advanced standing. Pharmacy, including materia medica and chemistry, but not anatomy and physiology, and, of course, embryology and histology, was the source of supply of a large body of students admitted to the second year of the medical college. The first year of medical work embodies a certain kind of study in one or more of the branches which all of the above pursuits include; please especially bear this fact in mind! The kind of study is intrinsically medical in contradistinction to dental, pharmaceutic, biologic, etc. More than all, one or more of these branches are, from every point of view, better taught by non-medical colleges, but mark you, in a non-medical method, while others are more thoroughly taught by the medical college. Thus, chemistry, as pursued by the colleges of arts and science, is more elaborate and thorough than that of the average medical college, and materia medica and chemistry by colleges of pharmacy. The medical college teaches anatomy and physiology better than any literary or other institution, and amid medical environment.

Now for the sophistry: When short-cut diplomas were refused recognition as a credential necessary for the right to be examined for licensure, the assertion was made that, by refusing to grant advanced standing to bachelors of arts and science such administration of the law was depriving the medical profession of that educated element which was essential to founding higher medical education. Objection to the interpretation of the law was bitterly and actively made by a large committee of literary college presidents, commercial medical professors and by all their coöperators who could be deceived into such erroneous action. The literary college claimed that its graduates were better grounded in chemistry and by some even in anatomy; the dentists, that they were practically as generally well qualified in anatomy, physiology, chemistry and materia medica, and so on, and thus every effort was exerted by these various elements to have their graduates obtain the degree of M.D. in three years.

Need it be indicated that the approval of such a procedure would not have added one iota to the medical curriculum? Is it not evident that, no matter what qualifications may have been possessed by anatomists, chemists, biologists, bachelors of arts, science, etc., as such, their studying medicine as its curriculum required, was not augmenting that curriculum or in any manner establishing the conditions which are so well recognized as a *sine qua non* for higher medical education.

On the other hand, had this formidable body of influential citizens succeeded in securing official recognition of the false claim, is it not manifest that the inadequate system of medical education would have remained just as it was and be still more securely entrenched? It was necessary to defeat this sugar-coated lethal sophism, to demonstrate that the fundamentals (and this makes plain the specific nature of our function as an examining body for licensure) are sciences not medical, but possess phases in an applied sense necessary for such diverse pursuits as agriculture, botany, sculpture, the utilitarian arts, etc., and that unless their pursuit was distinctively medical and covered that of the first year of our medical colleges of repute, advanced standing could not be legally granted. An art student having pursued anatomy as applied to art in no sense has studied anatomy as applied to medicine.

The term "exclusive," applied to the medical law in its specific medical interpretation, was adopted after weeks of discussion and be it thundered far and wide to the credit of the Administration of Pennsylvania, the decision was unanimously reached declaring four full years of medical study to mean four full years devoted to the exclusive study of medicine. By this victory over commercialism, the reign of medical legislation was instituted in its entirety, and, to-day, every medical college in Pennsylvania is obliged to grant its degree only after four full years of the exclusive study of medicine. What all of this has to do with our topic may perhaps be asked: it is this—to so arrange the topics for examination for license as to include those sciences which the various Acts of Assembly embody in common as a whole. This will necessitate on the part of some states the adoption of topics required by others, and where laws will not permit of this, the indicated amendments to the Act, necessary to accomplish it, can probably now be safely attempted. This would involve the related commercial interests earlier outlined, but as both profession and laity are cognizant of the general benefits resulting from higher medical education, there is a greater probability of success than has ever before promised. The distinctively medical function of each board must ever be borne in mind in formulating questions for examination, especially as by so doing commercialism as it was attempted by institutions indirectly related to the medical college, can never again assail and shake the foundations of genuine medical reform.

A chemist could not possibly claim advanced standing unless he were a master of chemistry as applied to medicine. A bachelor of arts or science could not be granted advanced standing in the course for the degree, because he pursued anatomy as a science and that probably by the use of diagrams, manikins, etc., or even by the dissection of a dog or a cat. The topics for examination should be, anatomy, including embryology and histology, physiology, materia medica, chemistry, bacteriology, pathology, including morbid anatomy and histology, hygiene, theory and practice of medicine, surgery, obstetrics and therapeutics, and if intelligently limited in the extent of requirement, necessarily those diseases also naturally within the skill of every practitioner and commonly encountered in the so-called specialties. Thus, questions in the main topics should include subjects embodying diseases of the eye, ear, nose and throat, nervous system, skin, and the diseases of children, and in obstetrics those accidents incident to labor generally regarded as belonging to gynecology. Toxicology as pertaining to materia medica, but not as a separate topic, should be required. They should be arranged in a logical order

or natural sequence—thus, first, anatomy as it is essential for the intelligent pursuit of physiology and the latter for pathology, while comprehension of the major branches is possible only after mastery of these, not as sciences, observe, but in their applied phases. Embryology is necessary for knowing the histology, i. e., characteristics of the structures evolving from the blastoderm, and this in turn for the comprehension of physiology. The examination in anatomy would, therefore, include questions in embryology and histology, but, permit the emphatic reiteration, only upon their applied phases.

Physiology is naturally next in order, and questions in this topic should have eliminated all impracticable and merely abstract facts. Careful selection of physiologic questions will lead to proper ones in pathology. The two embody that knowledge of structure of the functionating tissue and pathologic changes incident to both organic and functional diseases which seems to naturally associate them and they should be combined so as to constitute one paper.

A branch still to be developed and occupying an intermediate position is chemistry—not the chemistry the majority of medical colleges teach; that should be dispensed with entirely and made a requirement with physics (by the way) for the matriculation examination. We could then examine candidates, whether recent graduates or experienced practitioners, in chemistry as applied to medicine and thus bring about the establishment of a chair so entitled in every medical college; and this applies with equal force to anatomy and physiology.

Thorough instruction in this topic is absolutely necessary for comprehending physiology and certain phases of pathology, and, also, for intelligent work in the analyses of the body secretions and correct interpretation of the results. This branch, in the applied sense only, should, perhaps, precede physiology and pathology in the arrangement of topics, especially as the effects of bacteria, etc., on function and pathologic processes are in many instances of a chemical nature. Physiology and pathology very properly include bacteriology as applied respectively to each and this branch need not, therefore, constitute a separate topic. Materia medica bereft of the superfluous botanical, geographical and pharmacological features so commonly associated, and confined to crude drugs, official preparation and doses, seems to fit in here and could have associated "physiological action" or pharmacodynamics and toxicology, the latter as applied to the materia medica.

Practice, including, of course, what naturally belongs thereto, not as a separate topic, diagnosis, should be limited to etiology, symptomatology, prognosis, sequelæ and treatment and embody the commonly met diseases of any system or organ that latterly is the basis, wisely or not, of exclusive specialism. Certainly every clinician should be conversant with iritis, glaucoma, and the inflammatory affections of the superficial structures that are properly treated on general principles, and be able to differentiate cataract from chronic glaucoma and degenerations of the optic nerve. An otitis media suppurativa should never be mistaken for meningitis, and parasitic and specific cutaneous lesions should be within the sphere of every licentiate. Whether these should appear as special topics or be understood to receive recognition by every examining board and included in the questions of the major topics, is a matter for consideration.

The Confederation is the embodiment of that power which legally regulates practice. Its examination, therefore, fixes the standard of fitness and necessarily molds the system of medical education. It doubtless possesses the right to modify, as experience has indicated, some functions connected with the discharge of its weighty responsibilities, and by wisely exercising this prerogative can so arrange the topics in examinations as will, in every sense, be the best.

In conclusion, permit tabulation: If arranged for the best, topics will be included by each examining board that will indirectly compel every medical college to teach them. The scope of the examination will determine that included in the course of study leading to the degree, while the character or type of the examination must fix that of the teaching. This will accomplish one matter of vital import, viz., teaching and examination in the applied phases of the fundamentals. Thus, establishment of the much-needed curriculum will be indirectly brought about by a proper state examination and those commercial interests briefly outlined, which a decade of experience has taught examining boards to recognize as detrimentally potent in retarding the establishment of an effective type of examination, presenting under the guise of political, institutional, financial and personal interests, will have been effectually neutralized, and, in the near future, totally eradicated.

The establishment of a curriculum alike for every college granting the degree; a state examination the same in type and extent for every license will impart to medical education that distinctively essential individuality its importance merits; the same standard for matriculation examination; in a word, uniform standard in both general and medical requirement for uniform license right, will result from the best arrangement of the topics for examination for license, by examining boards.

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DEFLECTED PRESENTATION IN LABOR.*

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The obstetrical terminology lacks in general exactness and precision. This is especially true, so far as slightly deflected head presentations are concerned. Not only in occasional papers and in general practice, but in textbooks which are considered standard books the normal head presentation is spoken of as vertex presentation, while there is no attention whatever paid to deflected presentations which lie between the normal inflected presentation and the face presentation. The normal head presentation is the occiput presentation and not the presentation of the vertex, which is the top of the head. In occiput presentations the posterior fontanelle is the lowest point of the skull. If we have to deal with a vertex presentation there is a slight abnormality, a slight deflection which brings anterior and posterior fontanelle into the same level.

SOME ETIOLOGIC FACTORS.

Without entering into a discussion of the various theories concerning the causes of this slight deflection, I might just state that in cases where the fetus is the possessor of a struma or where the mother is the carrier of a pendulous abdomen, anterior vertex presentations are most likely to happen. Some authors claim that uniformly round heads, especially if this instance is combined with a flat maternal pelvis, furnish the majority of these presentations. The frequency

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

of anterior vertex presentations is, according to the largest statistics, about 8 per cent. of all head presentations. It is a very important feature of all deflected presentations that the rotation during the descensus of the head is delayed or entirely stopped at certain stages, so that the mechanism necessary for spontaneous delivery is considerably impaired.

DIAGNOSIS.

The diagnosis of an anterior vertex presentation can be made probable by external examination, while the internal exploration gives quite characteristic results. The external examination shows that the resistance formed by the fetal back has moved more to the median line and is not quite as distinct as in normal occipital presentations. Should the anterior vertex presentation persist for some length of time, the elongation of the occiput can be palpated through the abdominal wall. Internal examination shows that the anterior and posterior fontanelles are in the same level or that the major fontanelle is located even lower than the minor one, thus indicating the deflection of the spinal column of the neck.

If the head has just passed the pelvic brim, we encounter the sagittal suture toward the promontory, and just behind the symphysis we find an ear or the squamous suture. After the head has descended into the median plane of the pelvis, we find the sagittal suture in one of the oblique diameters while both fontanelles are still in the same level. If normal rotation, occipito-anterior, has taken place in an anterior vertex presentation, we find the anterior fontanelle just beneath the symphysis, while the anterior fontanelle can very easily be reached in the perineal region. This is due to the deflection in which the fetal head is held.

We must remember that in occipital anterior rotation of a normal occiput presentation the posterior fontanelle is to be found in the middle of the vulva, or in cases of forced flection, even resting against the perineum, while it is very difficult and even impossible to reach the large fontanelle with the examining finger. If abnormal, occiput anterior, rotation takes place in cases of anterior vertex presentations the glabella rests against the symphysis, while both fontanelles are easily accessible. In cases of occiput posterior rotation in occiput presentation the large anterior fontanelle lies beneath the symphysis.

I would like to call attention to the fact that once in a while, if the entire fetus is in an oblique position, the small fontanelle can be located higher up than the large one, although the head is kept in normal flexion. In such cases, the differential diagnosis can be made by careful and exact external examination, which will reveal the presence of an oblique position of the fetus.

SPONTANEOUS CHANGES IN POSITION.

In some cases of anterior vertex presentation the head becomes inflected and rotates normally, after all, and then the ultimate delivery will in no way differ from any other normal occiput presentation. But in the majority of cases the head descends to the pelvic floor in its deflected attitude, in which case either normal or abnormal rotation may take place, or the complete descensus of the head becomes checked by arrest in oblique or transverse presentation. If in a deflected attitude of the head the occiput rotates anteriorly the occipital tuber rests against the pubic arch and will form the point around which the head has to roll in order to pass the outlet, so that the head passes through the outlet with a larger diameter than in normal cases.

If the occipito-posterior rotation takes place, the glabella rests against the symphysis, and the extrication of the head will be more difficult because it has to be performed from a deflected attitude.

Furthermore, there has to be taken into consideration the fact that in all cases of deflection the occiput becomes elongated, so that the mento-occipital diameter becomes considerably enlarged, thus increasing the difficulty in delivering the head.

IMPACTION OF CERVICAL LIP.

The descensus of a slightly deflected head may cause the following complications: The cervix becomes dragged down by the fetal skull and its anterior lip becomes impacted between the head and the pubic arch. In such cases, although the cervix has been effaced, the external os does not seem to be completely dilated so that artificial delivery could be resorted to easily, while the anterior lip by the permanent traumatism and the cutting off of the venous circulation becomes more and more thickened so that it forms itself another obstacle to delivery. Under such conditions we try to push back the head in order to liberate the cervix from its entanglement while the introduced hand tries to pull down the occiput. This maneuver is almost uniformly successful. The cervix retracts promptly and the way is open for the forceps.

IMPACTION OF THE HEAD

If we succeed in bringing down the occiput, the occasionally not quite completed rotation, as a rule, follows very quickly this interference and spontaneous delivery takes place. If, which is not an infrequent occurrence in anterior vertex presentations, the head becomes arrested in oblique or transverse presentations, the whole affair gets a more serious aspect. In primiparæ, and in cases of even a slightly contracted pelvis, a transverse presentation of the head will, as a rule, not be overcome by the natural forces, even if the head should be normally inflected. One of the above-mentioned presentations, combined with anterior vertex presentation, may be considered an absolute obstacle to spontaneous delivery in primiparæ. In these cases a very dangerous condition arises which calls for prompt interference. On account of its impaction the head can not be brought down lower by the uterine contractions, but the uterine body keeping up its action delivers, so to speak, the fetus into the lower uterine segment and retracts itself over the fetal body, thus stretching more and more the walls of the cervix. In exquisite cases, the uterine body sits on top of the lower uterine segment like a solid tumor. The groove which separates the contracted part of the uterine body from the lower segment can be felt very readily and accentuates itself on the abdominal wall. This phenomenon is known as "Bandl's Groove" and is strict indication for prompt delivery. The higher this groove ascends, the greater and more imminent is the danger of rupture of the lower uterine segment.

In cases of pendulous abdomen in which, on account of anterior vertex presentation, the descent of the head is checked, danger of rupture may occur in consequence of the faulty direction of the expelling force. In such cases the uterus is apt to be strongly anteflected, so that the uterine contractions direct the fetal head toward the promontory, and there are cases on record in which, in consequence of these conditions, the vagina and the cervix have been torn in their posterior circumference. Such cases, however, are very rare, and the flection of the uterus and the position of the fetal body can be easily corrected by external manipulations and bandaging. The therapy in cases of anterior vertex presenta-

tions may be preventive, if we get a chance to interfere in the early stages, and it has to be an operative one in all cases in which the above-mentioned complications arise, or where the fetus seems to be in danger. In case the head has not descended too far, or is not yet fixed in a transverse presentation, we succeed in the majority of cases in transforming the anterior vertex presentation into a normal occiput presentation by placing the mother on the side toward which the occiput points. We keep the mother in this posture until the small, the posterior fontanelle, has become decidedly the lowest point of the skull. In case we should not succeed with this procedure, we have to watch very closely for the appearance of any complications or we have to resort to the manual correction of the deflection which will be discussed later on.

METHOD OF FORCEPS TRACTION.

The application of the occasionally indicated forceps in cases of anterior vertex presentations, where the head has completely rotated and is low down, deserves a few remarks. The way in which we have to pull on the forceps is decided upon, if we consider the peculiar way in which the head has to be extricated, and if we remember the fact that in deflected attitudes the occiput is always elongated. If the occiput points anteriorly, a part of the deflection in which the head has to roll under the symphysis is already used up, so we have to pull straight downward until the occipital tuber is brought well under the symphysis. Then, and not until then, we begin to elevate the forceps, and thus roll the head out with the symphysis as a pivotal point. It is different in abnormal rotation, where the occiput points toward the perineum. In these cases we should keep the tractions more to the horizontal plane until the posterior fontanelle has cleared the perineum, then we should immediately change to upward traction, so that the elongated occiput slides easily over the perineum.

In all cases of forceps operations in anterior vertex presentation, Walcher's posture can be used to great advantage. On account of the unfavorable diameter in which a deflected head has to pass through the vulva, and on account of the enlargement of the mento-occipital diameter, the perineum is always in great danger and episiotomy has to be resorted to quite frequently.

FACE PRESENTATIONS.

In external examination in face presentation we find the head at the pelvic aperture; the skull is elongated to one side; we encounter the greatest resistance and the minor parts of the fetus in the same side of the uterus, the resistance being caused by the anterior part of the thorax; the heart sounds are also found at the same side; if the fetal back points to the left, one notices the heart sounds on the right maternal side backward; the fetal back being turned to the right, the heart sounds are found on the left side and anterior. In the latter position the fetal heart can be palpated in favorable cases, that is, if the abdominal walls are very thin and the uterus flabby.

Internal examination shows the following points: The skull being high in the pelvis, one finds the forehead on one side, the mouth on the other side, in the center the root of the nose, and on both sides of the latter, the bulbi. In the second stage, the face entering the medium planum of the pelvis, the chin descends; the examining finger feels now on one side the anterior angle of the fontanelle major, on the other side the point of the chin. The face having entered the pelvic outlet, the chin is found beneath the symphysis, the forehead resting on the perineum. These findings correspond with the normal spontaneous decursus of face presentations. The face enters the pelvic introitus in a cross position; in further progressing the deflection becomes increased *ad maximum;* finally, the head descends in cross position to the pelvic floor. Rotation of the face, the chin being turned forward, takes place last, as the last preparatory motion before delivery.

PROGNOSIS IN FACE PRESENTATIONS.

As far as the fetus is concerned, the following irregularities are likely to occur: first, the face may place itself in the pelvic introitus with the chin backward; such a position excludes any further descensus of the head; or second, the chin fails to rotate forward, after the face has arrived at the pelvic floor in cross position. In the first case, spontaneous delivery is impossible, and may be considered an extremely rare occurrence.

Searching for the disadvantages of the face presentations, we find the following: The decursus of the labor is a protracted one even under favorable conditions, which for itself is connected with danger for the mother; second, the head passes under unfavorable circumstances through the vulva, which endangers the integrity of the perineum; the death rate of the children is a high one during the labor, and even if delivered alive the proper nourishment is impaired for several days; the lips and mouth usually by edema and hemorrhage swell up to such an extent that the babies are unable to suck and even to swallow.

The prognosis of face presentations becomes serious and directly unfavorable if complications previously have been present, or if they are added during the labor. To the complications of the first category belong pelvic contraction even of a slight degree, and constitutional diseases of the mother; to the complications of the second group belong great distension of the lower uterine segment, beginning fetal asphyxia, and irregular mechanism.

Now, the question arises, what could be accomplished in face presentations by the obstetric art, in order to secure a more favorable and prompt delivery? This could be answered in this way: We can transform the face presentation entirely by changing the whole attitude of the fetus, that is, by version, or by changing the presentation of the skull, that is, by transleading it from a position of deflection to an occiput presentation; or we can transform an unfavorable face presentation into a more favorable one by correcting the face presentation in this way, so that a spontaneous delivery may take place, or an extraction by means of forceps may be easily performed.

THE TECHNIC FOR RELIEF.

In particular the technic of these different methods can be described as follows: There is nothing special to say about the version—it differs in no way from any other podalic version. So far as the transformation of the face presentations to occiput presentations is concerned, it is necessary to understand the following points: If a face presentation develops at the pelvic aperture, the fetal thorax changes from one side of the uterus to the opposite one; if we intend to reconstruct a position of flection, the fetal trunk has to be induced to return over the same way in an opposite direction, consequently the fetal trunk has to be pushed upward to secure the necessary elongation of the fetal axis, and at the same time the fetal thorax has to be pressed into the other side of the uterus, in order to gain space for the flection of the head.

By combining Schatz's and Baudeloque's ideas, Thorn has developed a method which seems apt to be used by the

general practitioner. His method is performed as follows: The hand which corresponds with the fetal back is introduced into the cervix, and the finger tips are placed on the occiput, the other hand is placed on the maternal abdomen and grasps the fetal shoulder from the outside. While the external hand is pushing in an oblique direction the thorax from below upward and at the same time into the opposite side of the uterus, the internal hand draws the occiput downward.

CONDITIONS NECESSARY TO THE MANIPULATION.

Of course, all these manipulations have to be done during the pauses of pains. The transformation once performed, there is no danger of a relapse into a deflexion; as to this, an elongation of the fetal axis would be necessary, which is impossible under the influence of the uterus.

In performing the operation, the patient is placed on the side which corresponds to the fetal back; the patient remains in this position after the operation. Usually one succeeds with this operation without any difficulty; only in rare cases, if the patients are very sensitive, it becomes necessary to resort to general anesthesia. One is very often surprised how soon after the correction is accomplished the spontaneous delivery, in occiput presentation, takes place.

The conditions for this correction are: The cervix should be permeable for at least four fingers; the membranes should be ruptured, for if they are not, they are torn immediately before starting in with the operation; a slight fixation of the face does not render the transformation impossible; before trying to get on the occiput the face is gently pushed back.

In those cases in which the face has descended to the pelvic floor, and no further rotation of the chin takes place, it is wise to correct this position, as in a cross or oblique position a delivery of a face presentation is almost impossible. It is recommended for such cases, to apply the forceps in the oblique diameter and rotate the head by means of the forceps, after which the extraction may follow.

As to this, I wish to say: In the first place, to apply the forceps in the oblique diameter in face presentations is always difficult, very often impossible; second, the blades of the forceps are working at a point unfavorable for this purpose; third, there is always the danger of tearing the vagina and the cervix by the great power which can be exerted through the forceps. Therefore it is much more expedient, in such cases, to perform the correction by means of the hand. The flat hand is introduced over the face, the fingers grasp the chin and pull it under the symphysis; after this is done, the forceps may be applied.

INDICATIONS.

Concerning the indications the following may be said: The old rule in face presentations that the expectant therapy is the best, will only hold good in quite favorable and uncomplicated cases. If we consider that the mortality of children in face presentations is 12 per cent. after the largest statistics, and that in other presentations quite indifferent complications became very serious ones in face presentations, the rule seems to be justified to correct the face presentation in every case which even slightly shows a complication or something abnormal. If there is a pelvic contraction, even a very slight one, the version seems to be the operation of choice.

We should not wait until the face becomes fixed. A fixed face high up can not be grasped with the forceps if the necessity of a speedy delivery arises.

An absolute indication for interference results if the face presents itself in the pelvic aperture with the chin backward, as in this position the head can by no means descend to the pelvic floor. After the death of the child, craniotomy is a most expedient operation. Symphysiotomy has to be performed in case the head of a living child is absolutely fixed in a contracted pelvis.

METHOD OF FORCEPS APPLICATION.

The application of the forceps on a face which has spontaneously rotated or after the rotation has been completed by the above-described manual interference, has to be done in the following way: The insertion of the blades is executed in exactly the same way as in an occiput presentation. But before we try to close the forceps, both handles are elevated above the horizon and then they are locked. This is done in order to make the points of the blades grasp the occiput to prevent the injuring of the fetal neck by the blades. After the forceps are locked, the handles are lowered almost to the horizontal level and the first tractions are done in this direction. After the child appears under the symphysis, we pull in an oblique direction upward so as to develop the occiput over the perineum.

In brow presentations, the head is more deflected than in anterior vertex presentations, the brow is located in the median plane of the pelvis and the large oblique diameter stands in the transverse diameter of the pelvic aperture. The external examination gives quite similar results as in face presentation, although not as pronounced. The internal exploration shows the forehead in the middle of the pelvis.

Into one side we can trace the frontal suture and the root of the nose, into the other side, the anterior fontanelle and the anterior part of the sagittal suture. It is impossible to reach in contradistinction to anterior vertex presentation the posterior fontanelle on one side, or in contradistinction to face presentations to reach the chin at the other side. As to the decursus of a brow presentation, it will always be a very difficult and tedious one because if no change takes place the head has to pass through the pelvis with its largest diameter. In some cases the brow presentation changes spontaneously in face or anterior vertex presentation. The normal rotation for a brow presentation is with the chin anterior. Schatz calls attention to the fact that brow presentations are not only complicated, but according to his experience quite often caused by constriction of the internal os. In fact, we can observe in brow presentations that the head is brought low down by the pains and rebounds in each interval. In these cases Schatz recommends to put the patient right away under general anesthesia so as to make the contraction ring relax and after this is accomplished to resort to the axis traction forceps.

If we have diagnosed a brow presentation, we will first try to transform it by Thorn's manipulation into an occiput presentation. This, to be sure, will quite often be without result on account of the above-mentioned condition. Other authors suggest the transformation of brow presentation into face presentations by placing the mother on the side which corresponds with the face. In cases of contracted pelvis and absolute impaction symphysiotomy will be the operation of choice as long as the child is alive, while craniotomy will be resorted to in case the child should have died. The application of a high forceps in brow presentation is an operation which calls for extreme carefulness and precautions. The whole hand has to be introduced before a blade is applied.

The position of the blades have to be chosen according

to the side through which the chin points. After each traction the forceps have to be unlocked and a controlling hand introduced in order to prevent any damage. In cases where normal rotation has already taken place, the application of the forceps will in no way differ from the application in face presentations. Especial attention has to be paid to the ears of the child, which very easily become entangled in the blades. In summing up the following statement seems to be justifiable: Deflected presentations are very important abnormalities which very easily lead to complications dangerous for mother and child. The diagnosis made promptly will enable us in the overwhelming majority of cases to prevent trouble by appropriate interference. The inactivity which is taught by so many text-books is unjustifiable.

DISCUSSION.

DR. RUDOLPH W. HOLMES, Chicago—The author has covered so much ground that it is impossible to discuss the paper as a whole. The occipital presentation which he says is the usual, normal one is really a rather rare presentation, occurring typically in the generally contracted pelvis. The part of the head which really does present normally, i. e., the most dependent portion, is just anterior to the smaller fontanelle, on the sagittal suture. If the examining finger follows the axis of the pelvis this point is the one found first; if the finger enters back of the pubes the occiput is met with, and suggests that it is the presenting part. Frozen sections demonstrate this. Extension is of grave import when the occiput is posterior, persistently so, or when the sagittal suture runs transversely in the so-called transverse arrest, for the occipito-frontal diameter tends to come into consideration in the mechanism; when the occiput is anterior this extension is of importance as a cause of fetal dystochia, but offers no comparison to the dangers in the positions above mentioned. You must differentiate between the abnormal and normal extension. In flat pelves as the head enters the brim the sagittal suture is transverse, and in the descent of the head the frontal region dips, extension occurs; this is a physiologic process in a pathologic pelvic deformity, and no attempt should be made to interfere with the mechanism. As the head passes the brim in occiput posterior there is a slight extension; again, it is physiologic and no interference is needed. In these two conditions, occiput posterior and flat pelves, posture is to be practiced as a routine after the head has passed the brim, but not before. This should be done by putting the woman on that side towards which the occiput is directed: i. e., occiput to the right, on the right side, occiput to the left, on the left side. This will oftentimes save a difficult operative procedure.

Dr. Kolischer pointed out a thing that is known generally in Europe, and is only slightly recorded in American obstetric works, and largely ignored in practice, and that is that the fronto-mental line passes through the pelvis transversely, rotation occurring only when the chin has practically reached the vulva, and the much elongated occiput has passed the promontory. Too often in practice the physician finds this condition obtaining, thinks it pathologic, puts on forceps, and tries to rotate. It is the last thing he wants to do: leave it alone and rotation will take place in due time. Ziegenspeck has not received sufficient credit for the treatment of face presentation. He introduced a method contemporaneously with Thorn, a combination of Schatz's and Baudelocque's methods. Thorn combined Schatz's method with the second procedure of Baudelocque, the internal hand pulls down the occiput. Ziegenspeck used, internally, Baudelocque's first method which is first to push up the face (the chin), an to guide the occiput into the brim. Ziegenspeck's method is better than Thorn's in that less dilatation is necessary. Tersely put, when interference is indicated version usually should be done in mento-anterior positions, for correction to a vertex would produce the relatively bad occiput posterior, which perhaps is the most frequent cause of face presentation. In instances of mento-posterior, manual correction is more justifiable, for when the vertex is made to present the occiput is anterior, the most favorable position for delivery.

DR. C. S. BACON, Chicago—I will call attention to one point, and that is the question of management of face presentation, the most important point in the whole question. Allowing these face presentations to go on is often the cause of serious danger. I have come to the conclusion that even when the pelvis is large and the head small, or undoubtedly not enlarged, it is better to interfere in every case, and I do not believe Dr. Holmes' manual correction is the proper interference. The interference by combined manipulation can be carried out in almost every case, unless the head is firmly fixed in the pelvis. I think it is rare that, when the patient is anesthetized, the head can not be pushed back and the position rectified. That must always be done under anesthesia; without anesthesia it is neither desirable nor justifiable.

DR. KOLISCHER, in closing—So far as vertex presentation is concerned, Dr. Holmes and I do the same thing. According to Webster, vertex is the top of the head, and occiput the posterior part of the head. In normal presentation the posterior fontanelle is below this point, and you have an occiput presentation. Vertex presentation is when the anterior part of the top of the head presents. Slightly deflected presentation should be diagnosed. They are frequent causes of trouble, and if diagnosed in time the trouble can easily be prevented. In occiput posterior we need not place the patient on one side, as it will not do any good. By placing the mother on a certain side, the part of the fundus rests against this particular part, and it starts contraction. It is not right, as Dr. Holmes says, that extension of the head is normal in posterior occiput. If extension is there, the head is forced to come through a large diameter, and if we have to deal with a flat pelvis, how is the head delivered in occiput posterior? By extremely strong flexion. If we encounter such a deflected presentation, an occipito-posterior rotation, even in a normal diameter, we insist on pulling down the occiput and abnormal rotation with slight extension takes place, followed by spontaneous delivery.

So far as face presentations are concerned, I do not think that anybody ever advocated trying to transform a face presentation into inflected presentation before labor comes on, because you can change the position a hundred times before contraction of the uterus, and it will not remain fixed. After the face is driven into the pelvis, it can be changed, and it is impossible to have a change again into the face presentation. The occiput presentation will remain. It is impossible for the antero-posterior diameter of the head to pass through any human pelvis at the same time. There is no pelvis large enough. A face presentation with chin posterior is absolutely impossible so far as text-books go. They say there are no such presentations. I do not know what to say except simply to refer to that popular saying relative to the inhabitants of Missouri.

Dr. Bacon says he would put the patient under general anesthesia. That would, of course, be considerably easier, but there are cases on record where a face presentation was transformed without anesthesia.

MASSAGE AND EXERCISE IN THE MANAGEMENT OF THE PUERPERIUM.*

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In obstetric practice there are various conditions when a patient should keep in the horizontal position for a longer or shorter period of time. For example, rest in bed is a very important part of the proper management of excessive vomiting of pregnancy. Sometimes it is necessary or very desirable to continue the rest treatment for several weeks. Threatened abortion or premature labor is also an indication for strict observance of a horizontal position. Occasionally this

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enforced rest must be maintained for months. The same thing is true for cases of heart and kidney diseases.

REST IN THE PUERPERIUM.

While the use of the horizontal position is at times of much value during pregnancy, it is during the puerperium especially that we have to consider its advantages and disadvantages, for here every puerpera is kept in bed for some time, the period depending on a variety of circumstances. It is true that from time to time teachers as well as practitioners appear who discourage any bed-confinement in the puerperium. As is well known the late Professor Goodell was one of these. This practice of getting up on the first or second day after labor has, however, never gained general approval, either among physicians or the laity. There are good reasons for a rest period after labor, the "child bed," as shown by the common custom. Some of these reasons, and perhaps the more important ones, have not been always clearly appreciated, while incorrect ideas on the subject are more or less prevalent. For example, it is often held that getting out of bed during the first two or three days of the puerperium would cause backward displacement of the uterus. A moment's consideration of the anatomic condition shows the absurdity of this idea.

A very obvious reason for puerperal rest is the necessity for recuperation from the exhaustion of pregnancy and labor. In most cases pregnancy is a strain on the prospective mother which makes a period of rest very desirable. The labor itself is also often a serious strain which requires a few days of rest. Any one who has studied the subject of rest cure in other conditions in women and seen its beneficial effect will need no argument to prove its importance here.

SPLANCHNOPTOSIS.

One of the most important reasons in favor of puerperal rest in the horizontal position and one formerly neglected is the fact that the upright position after labor predisposes to splanchnoptosis. The decrease in the intra-abdominal pressure, due to the removal of the uterine contents and the diminished elasticity and power of the lax abdominal walls, is the etiologic factor in producing this prolapse of the abdominal organs. The greater the previous distension of the abdominal walls and the weaker the elastic and muscular elements the greater will be the change in intra-abdominal pressure and the greater will be the possible importance of this factor in causing prolapse.

That pregnancy and the puerperium have an important influence in causing enteroptosis is admitted by all. This influence may be exerted in other ways beside through the changes in abdominal pressure. The elongation and perhaps the relaxation of the supporting ligaments of the organs may be a factor. I do not intend to discuss the etiology of enteroptosis comprehensively, but only to call your attention to the fact that this important morbid condition frequently begins during or immediately after the puerperium, and that improper management of the puerperium is undoubtedly responsible for it.

That so little attention was given to this subject formerly, and that even now it is quite generally neglected, no doubt results from the fact that our knowledge of the etiology and clinical importance of splanchnoptosis is of such recent date. Not until recent improved methods of examination of the stomach were devised could the frequent occurrence and significance of gastroptosis be suspected. Nephroptosis was thought to be very rare and its bearing on the symptom complex of enteroptosis was unknown. So of the prolapse of the colon and other viscera. Without accepting all of the conclusions of Glenard concerning the varied nervous manifestations of enteroptosis, it may be admitted that many of the nervous, digestive and circulatory disturbances of women with weak abdominal walls and displaced viscera are due to these factors.

So long as a patient retains the horizontal position the chief factor in causing visceral ptosis, gravity, is absent. It follows, therefore, that the horizontal position should be maintained if possible until the abdominal walls have regained their elasticity and strength and the normal intra-abdominal pressure is restored.

The intra-abdominal pressure, dependent as it is on the tension of the abdominal walls, has an important influence on the circulation of the abdominal and pelvic viscera. The involution of the pelvic organs is in turn dependent to a considerable extent on a normal blood and lymph circulation. Whatever helps to prevent a venous and lymph stasis consequently favors the puerperal involution of the pelvic organs. The horizontal position for mechanical reasons is therefore desirable. I think clinical experience will confirm this theoretical conclusion that a reasonable use of the horizontal position favors the involution of the pelvic organs.

DISADVANTAGES OF REST IN BED.

While these and other advantages follow the proper employment of the horizontal position in child-bed, certain objectionable sequelæ often become manifest. These are muscular weakness resulting from inaction, poor circulation with stagnation of lymph, impairment of secretions and excretions, with the general symptoms of weakness, dizziness, constipation and the general malaise of an auto-intoxication. Some or all of these symptoms are found after long confinement in bed in the puerpera, just as they would be found in any healthy individual suddenly transferred from an active life to the bed. These objections are so real that in many cases they counteract the beneficial effects of the bed rest and justify the practice of early rising.

MASSAGE AND EXERCISE.

The problem that I have undertaken to discuss is how we may retain the undeniable advantages of the bed and overcome its objections. I believe this is solved by the systematic and rational employment of massage and exercise.

I do not want to claim that there is anything new or original in the methods I am about to describe. No doubt all of the exercise and manipulations have been common property for years. Probably they have been used by many obstetric practitioners. It is true, however, that these measures are not described in the textbooks, and, so far as I am aware, they are not in general use. They have been gradually introduced into my own practice as their need became apparent to me. Their use has been attended with such satisfactory results that I can not forbear directing the attention of others to them.

Both massage and exercise are therapeutic agents that should be employed with the same degree of care and attention to detail that is observed in the use of drugs or any other remedial measures. Formerly sufficient attention was not given to them in the medical schools, and even now in many schools they are still neglected. The result is that most physicians are personally not familiar with the technic of their administration. Singularly enough most training schools for

nurses also omit from their curriculum training in this very essential part of a nurse's work. Massage manipulations and administration of movements or exercise are therefore left to specially trained persons who, because of their monopoly, sometimes arrogate to themselves unusual powers and invest their simple measures with something of mystery. The worst feature of the case is the fact that measures that should be in constant daily use are overlooked to the detriment of our patients.

Both massage and movement cures are as old as medicine, formerly greatly employed by the Romans, Greeks and Orientals, and more recently rediscovered or reintroduced into general use largely by the Swedes. It would seem superfluous to describe the indications and technic of massage were it not for our common neglect of or imperfect acquaintance with this agent. Because of these considerations I will venture to call attention to the object of massage in the puerperium and to the simple details of technic.

THE VALUE OF MASSAGE.

For our purpose we may consider general and local massage. The latter includes abdominal and breast massage. Massage affects the circulation, both blood and lymph, the muscles, the nerves and locally the abdominal viscera. As to technic we have superficial manipulations or friction rubbing and deep manipulations, general kneading and deep rubbing.

Stimulation of the skin of the whole body by friction, rubbing with the dry hand is a very excellent stimulant to the general circulation and a valuable nervous sedative. It can be performed by any one with sufficient physical strength, and may be employed with advantage several times a day during the whole puerperium.

General massage with deep manipulations, kneading and deep rubbing is a more powerful stimulant to the circulation by mechanically emptying the blood and lymph vessels and exercising an energetic influence on the vascular tonicity. The manipulations should be in a direction to favor the venous and lymph circulation. These deep manipulations also keep the muscular elements in good condition by improving the circulation in the muscles and by directly stimulating contractions of the muscular fibers. The improvement of the tone of the muscles of the abdominal wall by its kneading is of much importance. This general deep massage of the extremities, the back and the abdominal walls can be begun with advantage on the first day of the puerperium and continued as long as the patient remains in bed.

Locally massage of the abdominal viscera through the abdominal walls is often of much importance in the puerperium. The strengthening of uterine contractions by such massage directly after labor need not be further considered, as this manipulation is appreciated and practiced by all. Less universal but of great value is massage of the intestines for that common, troublesome and sometimes even dangerous condition, puerperal constipation. Here deep rubbing, beginning with the cecum, passing up the ascending colon, across the transverse and down the descending colon, both stimulates intestinal peristalis and mechanically moves forward the colonic contents. It sometimes obviates the necessity for enemas and cathartics and is always a valuable adjunct to them.

The essential manipulations of massage thus far considered can be taught an intelligent attendant in one or two séances of twenty minutes or half an hour each. Of course, a completely satisfactory treatment to a sensitive and delicate patient requires much more training, but I want to call attention to the fact that any physician, even those who have an exclusive country practice, can soon train up assistants who can give him aid in these cases if he himself understands the technic of the manipulation.

TECHNIC OF BREAST MASSAGE.

Massage of the breast is made for the purpose of relieving the painful congestion and over-distension that often occurs at the beginning of lactation. A sharp distinction should be made between this distension and inflammation of the breast. In the latter condition massage is dangerous. As generally practiced, massage of the breast is a painful procedure and based on incorrect principles. The direction generally given to rub the breast from the circumference toward the nipple evidently presupposes the object to be the emptying of the milk out of the breast. It is feared that milk remaining in the breast will "cake" and cause inflammation. There is, of course, no danger from milk in the milk ducts. As a matter of fact the enlargement of the breast is not due to secreted milk, but rather to overdistended blood and lymph vessels. Emptying out these vessels will leave the breast soft and small without removing a drop of milk. The object of breast massage should be to relieve the painful engorgement by emptying the congested vessels. This is done by beginning outside of and above the breast and rubbing in the direction of the venous and lymph flow toward the axillary and subclavian trunks. After the surrounding area is well massaged the breasts are gradually approached, the manipulation being still in the same direction.

No pain should be caused by this manipulation. If the massage is painful it is proof that it is not properly given. The object of massage is to relieve pain. The condition of breast engorgement is not dangerous and will disappear without harm if nothing is done. Such distension is, however, in some cases very painful, and here proper massage furnishes great relief.

EXERCISE AND ITS USES.

When we come to consider the employment of exercise in the puerperium we have to deal with a subject of more general interest and which can be of more universal application than massage. Massage presupposes a nurse or attendant. Even when we have a good nurse she may be kept busy with the baby. Often there is no nurse in constant attendance. In all these cases the mother may do the bed exercises and derive from them just as much advantage as if she had the individual care of an attendant.

A comprehensive treatment of the subject would include the consideration of passive movements that require, of course, the aid of a nurse. These passive movements are, however, hardly necessary in the puerperium, and I pass on to the discussion of the more practical subject of active movements.

We may repeat that the objects of exercise are to strengthen the muscles, and in particular the muscles of the abdominal wall, to improve the circulation and prevent the impairment of the secretions and the excretions, and thus avoid the auto-intoxication that is apt to result. How muscular action favors the venous and lymph circulation needs no discussion. How the secretions are dependent on the circulation and how the general condition of the body depends on the normal activity of its secretions and activities is also too evident to require elucidation. The value of exercise in stimulating a free production of normal milk is un-

doubtedly considerable, as has been demonstrated by experience.

PROPER EXERCISE IS HARMLESS.

Are there any objections to bed exercise? When the kind and amount of exercise is regulated to the condition of the patient I am certain that this question may be answered in the negative. The point that has chiefly interested me and to which I have given most attention is the effect of exercise on the uterine discharge. I have never seen any evidence that exercise of the extremities influences the discharge at all. Once or twice I have thought that the early use of the abdominal and pelvic muscles increased the lochia at first, but it soon stopped, even when the exercise was continued. Such experiences are very common with patients when they begin to get out of bed. Lately I have not begun the abdominal exercises till the end of the first week, and am convinced that no harm will result if the exercises are made in accordance with the rules about to be given.

It is here in place to consider the question whether it is necessary to keep a patient absolutely quiet after labor, and if so, for how long a time. Hirst, in his textbook, says: "The patient shall lie flat on her back and shall not be allowed another posture for at least a week." Robb, in Jewett's System of Obstetrics, says: "For the first two or three days the woman should be kept flat on her back with the head only a little raised on a small pillow." The reason for these directions is the fear of cerebral anemia and syncope from the sudden decrease in the intra-abdominal pressure. I do not believe there is sufficient justification for such extreme rules. The decrease in the intra-abdominal pressure may be overcome by the use of a properly applied abdominal bandage. If the uterus is well contracted so that there is no danger from postpartum hemorrhage, and if the patient is in a normal condition, I see no reason why she should remain immovable on her back. I am in the habit of allowing patients who are in a normal condition after labor to move about in bed as much as they please, and have never seen any bad results from such a course.

If a labor has been long and hard a patient should have a few hours' rest. The muscular soreness due to the exertions of labor can be removed by massage. In such cases the exercise generally begins on the third day of the puerperium. Where the labor has not been exhausting it may commence on the second day.

DETAILS OF THE EXERCISES.

The exercises may be classified as, first, those made without resistance, and, second, those made against resistance. I make use of six movements which seem to me sufficient for a pretty general exercise of the most important muscle groups.

1. Combined flexion and extension of the forearm and hands. The patient lies on her back with nothing under her head. The arms lie on the bed extended at right angles to the body, the hands and fingers being also extended as much as possible. From this position of extreme extension the forearms are flexed upon the arms, the arms themselves remaining stationary, the wrists are flexed and the fingers flexed, firmly closing the fists which rest upon the arms or shoulders. Then the arms, wrists and fingers are extended to the first position. These movements are repeated at the rate of fifteen to twenty a minute. Before beginning a deep inspiration is made. Expiration occurs with flexion and inspiration with extension. The movements are made slowly, energetically and both flexion and extension are as extreme as possible. The movements at the beginning of the treatment are repeated five to ten times.

2. The second movement is a swinging of the whole arm, calling into play the muscles of the chest. It begins with the arms extended at right angles to the chest, as in No. 1. From this initial position the arms are swung to the vertical position and then back to the horizontal. Expiration naturally accompanies the movement upward, which compresses the chest and inspiration the downward movement, which expands it. This exercise is also repeated five to ten times.

3. Extension and flexion of the feet. This exercise calls into play the muscles of the feet and legs. It is a powerful stimulant to the circulation in the feet and is the best way to warm cold feet. The bedclothes are removed from the feet. The patient lies on her back as before, the knees straight. The exercise begins with the feet extended on the legs and the toes flexed. From this initial position the feet are flexed and the toes extended as much as possible. Expiration accompanies flexion of the feet and inspiration their extension. The rate and number of these movements is the same as in Nos. 1 and 2.

Beginning the second or third day these three exercises are all that are used during the first week. As every one who has had any experience with therapeutic gymnastics knows, it is very important that all movements should be made with vigor and thoroughness and that they should be repeated with regularity. My usual direction is that the exercises should be taken in the order of one, two and three, each movement being made ten times. Then, after a moment's rest, they are repeated, and so a third time. This consumes about ten minutes. The exercises are repeated four or five times a day, generally about 10 and 12 a. m. and 4, 6 and 9 p. m. If the patient is pretty weak the exercises are made but twice or the movements are made less than ten times. After two or three days the movements are often increased to fifteen or twenty.

4. The fourth exercise is not begun until the beginning of the second week, when it is added to the other exercises. It is a combined flexion and extension of the thigh, leg and foot. It begins with the initial position of No. 3, that is, straight knee, extended foot and flexed toes. From this position the thigh is flexed on the body, the leg on the thigh, the foot on the leg and the toes extended. Then the leg is forcibly extended to the first position. As in the other cases, expiration accompanies flexion and inspiration extension.

5. The fifth is a flexion of the extended lower extremities upon the abdomen. It is added to the other exercises on the ninth or tenth day of the puerperium. From the initial position of No. 3 the legs and thighs, held stiff, are brought to the vertical position and then carried back to the horizontal. Not more than five movements are made at the beginning.

6. Exercise No. 6 is a flexion of the whole body upon the thighs; that is, a raising of the body from a horizontal to a vertical position by the contraction of the muscles of the abdominal wall. The lower extremities must remain on the bed and the body must be raised solely by the muscles and not by the use of the arms. Both movements of sitting and lying must be done very slowly. The movement should be repeated only four or five times, and that number of movements is all that should be made at one time.

Many patients are unable to do this exercise at first. It should not be attempted before the twelfth or four-

teenth day. It is of the utmost value in strengthening the weakened abdominal walls, and in these cases has given me great satisfaction. I am in the habit of continuing its use long after the patient has left the bed.

These exercises, systematically carried out, with variations suited to the case, add an interest to the management of the puerperium that must be experienced to be appreciated. At first the patient is pleasantly occupied with the novelty of the performances, which fill up the day and banish all idea of monotony. In a few days she begins to feel the strengthening effect of the exercises and rejoices in the consciousness of a strength that is in great contrast with the weakness and lassitude that she may have experienced in a previous child-bed. Finally, when she gets out of bed, instead of dizziness and fainting, she is as strong as when she was a girl.

RESISTED MOVEMENTS.

The efficiency of the exercises described may be increased by making use of the principle of resisted movements. A consideration of manual resistance may be omitted, since such movements require the services of a nurse and the object of this paper being eminently practical makes it desirable to leave the patient as independent of the nurse as possible. Hence I will speak only of resistance by means of apparatus and confine myself to the cheap and well-known Whitely exerciser. I know that theoretically the production of resistance by elastic cords is incorrect, but for our purposes the simplicity and cheapness of this apparatus outweighs its objections.

For the arm exercise the apparatus is attached with the single pulley at the foot of the bed and the handles at the head. The manner of applying the apparatus to exercises Nos. 1 and 2, or modifications of them, will easily be understood by any physician or patient with a little study. For the exercise of the feet and legs the single pulley is fastened to the head of the bed and stirrups or straps for the feet are substituted for the handles.

Important use of resisted movements can be made in special cases. I have employed them only about a year and look forward to a considerable development in this line. For the average case, however, the unresisted movements are perfectly satisfactory and, being more easily employed, are to be recommended for general adoption.

WHEN MAY THE PATIENT WALK?

In conclusion it may be well to briefly consider the subject of "getting up," since it is so closely connected with the subject of puerperal exercise. Ordinarily, as you know, a puerpera is kept in bed one, two, three or four weeks, according to the ideas of the physician and the circumstances of the case, and then she begins to get out of bed by sitting an hour or two at a time. Only after several days is she allowed to walk.

I can see no good reason why a patient should not walk as soon as she sits if the puerperium has been managed in accordance with the principles stated above. Such a patient will not be dizzy when she stands up. It is assumed that any remaining deficiency in normal intra-abdominal pressure is supplied by a good abdominal bandage. For such a patient walking is a good exercise that supplements the bed exercise. For a few minutes at least the abdominal walls, assisted by the bandage, preserve their tension and prevent the tendency to visceral prolapse. On the contrary, the sitting position retained as it generally is for a much longer time favors splanchnoptosis and splanchnic congestion. As an exercise it has no value.

Hence I am in the habit of telling a patient that she may get up and walk two, three or four minutes four or five times a day, but not to sit down. Sitting comes later than walking. Of course, sitting for two or three minutes is not objectionable, but it is almost impossible to make a patient observe this limit while she will follow the rule about walking. I have patients walking several days before they sit.

As a rule a patient begins to walk on the tenth to twelfth day. By the end of the second week she is allowed to sit ten or fifteen minutes at a time. By the twentieth day she may sit up an hour or two at a time, always lying down to nurse the baby. In bad cases of lax abdominal walls the patient would better remain in bed employing the exercises for three weeks. Of course, there are many cases when the patient is obliged to get up during the second week. For these cases the massage and exercise treatment is of especial value.

DISCUSSION.

DR. A. ERNEST GALLANT, New York City—I wish to congratulate Dr. Bacon for this very valuable paper, but I must differ with him as to the necessity of keeping the patient in bed. My idea has been that we use massage to get the patient out of bed at an earlier day. If we put a well patient in bed and keep her there for three or more days, the muscular tone will disappear, and the woman will be very weak when she attempts to walk. Massage will do all Dr. Bacon claims for it. The muscular soreness complained of during the first twenty-four hours after labor can be eliminated by massage over the back and abdomen, and it can not injure the patient. A light massage is kept up for two or three days, and later passive and active motions are put into effect. I find that involution is more rapid, and when the patient gets up she does not have to overcome that distressing weakness which is so commonly manifested after maintaining the dorsal position for any length of time. Instead of a weak pulse, you have a strong pulse, and there is no tendency to syncope when the patient is placed in the sitting posture, or when she attempts to walk. I do not allow my patients to remain in the dorsal position. The more we keep our patients lying upon the side or abdomen for a certain length of time every day, the better position will the uterus be in after she gets up. The dorsal position, to my mind, is the cause of more retroversions than anything else, and that is where obstetricians make a serious mistake. I make it a practice in every case where before pregnancy there has been any tendency to displacement, to tampon for at least two weeks after the uterus has involuted enough to enter the pelvis. Just as soon as I can feel the fundus on a level with the brim, I begin to tamponade every day with sterile gauze. In this way I train the uterus to resume its normal position with the fundus on the bladder, and keep it there. No matter what position the woman assumes, the uterus can not fall back and the ligaments can not involute in a wrong direction. If we accept the view that the ligaments are guy ropes which hold the uterus in position, then we should train these ligaments to involute in the right direction. When involution is complete a well-fitting Albert Smith pessary can with advantage be worn for 3 or 4 months. Long practice has demonstrated that this pessary when inserted wrong end up will fit the vagina more accurately, give greater comfort, and support the organ more securely.

DR. RUDOLPH W. HOLMES, Chicago—I think in no place in medicine is it permissible to be arbitrary. After a normal, healthy pregnancy and labor, it is a mistake to keep the woman in bed for two or three weeks. Just go to bed for some slight illness and see how debilitating it is. One woman can get up on the sixth or eighth day, whereas in another it would be a crime to let her up before eight weeks. I have three tests on which I rely in letting a woman get up, aside from her general condition. One is tenseness of the abdominal wall. After a normal labor the woman is ready to get up after

eight or ten days. The second is the condition of the perineum. A woman with a severe laceration should stay in bed longer than a woman having none. If the pelvic floor is normal, the retrogressive changes go on, normally, and she can get up in eight or ten days. The principal thing is involution of the uterus, and with that the character of the discharge, absence of pain or tenderness. She can get up when the uterus is no longer palpable. I think it is extremely inadvisable to keep a woman on her back. As soon as she has passed out of the effects of the labor, she should be allowed to assume any position.

I do not believe massage of the breasts should be done unless indicated. I thoroughly agree with Dr. Bacon that massage is very essential for the woman while she is in bed. If the woman has systematic massage, she can walk better when she gets up than the woman who has had no massage. I think it is well to let the woman get up in a chair; as she recovers her strength, allow her to walk.

DR. PHILANDER A. HARRIS, Paterson, N. J.—While considering the question of massage, as advised by Dr. Bacon for a woman who has simply given birth to a child, and who has, therefore, only passed through a perfectly normal physiologic process, we must remember that he is putting upon the attendants of the patient a burden which we are accustomed to do without, and for which I confess I have only rarely witnessed the need of. It appears to me that it too often happens that women who have passed through normal labor are restrained and influenced far too much by us in one way or another.

I believe that the woman who, after passing through normal labor, is allowed to do just about as she wishes, uninfluenced by her nurse or her physician, will make a more rapid recovery and will be better off in the end than if we subject her to all these things.

I thoroughly endorse the remarks of Dr. Holmes, and am with him in the stand he takes in allowing the woman to choose the position in bed she wishes to occupy. Let her assume any position, and let her get up to urinate and to defecate if she wishes to. Do not let her think that she must lie on her back when to lie upon either side, for a change, would be far better. I think the natural inclination of a woman under these conditions should guide us very materially in all our advice to her. I am decidedly opposed to any plan which keeps a physiologic case on its back for many days.

Massage is undoubtedly useful in maintaining or increasing the strength of the patient, and if one happens to have a rich patient, and he desires to prolong the stay in bed, and at the same time avoid the muscular atrophy and consequent weakness ordinarily resulting therefrom, I am sure that the suggestions of Dr. Bacon for the employment of massage will be a capital thing.

DR. GUSTAV KOLISCHER, Chicago—It is a good plan not to keep the patient on her back because it is enervating. I can hardly see how retroflexion or retroversion would be caused by keeping a woman on her back. The uterus *in toto* might go nearer the sacrum, but I can not see how it can be retroverted or retroflected. If we examine a patient who has been in bed for months or years for some other disease, we do not find retroversion or retroflexion. It is absolutely not the fact, and you can demonstrate it by experiment. In a case of anteflexion you can put the woman on her back, and it will not change the position of the uterus.

Massage is a good thing. I have not practiced it, but I am convinced that it must do much good. It will prevent many things, but especially constipation. Massage of the breasts should not be used unless there is engorgement or where involution does not progress satisfactorily. We know that nursing an infant is a great stimulant to involution, and in these cases of delayed involution massage of the breasts would be a very good thing.

DR. C. S. BACON, in closing—I am glad to have had the substantial support of all the speakers. The subject is an important one, and many of the ideas are in opposition to the teaching in ordinary text-books. With regard to the point made by Dr. Gallant, early rising after laparotomy and after labor are different questions. It can be allowed after laparotomy, but not after labor, where there is a change in the abdominal contents and consequently in the intra-abdominal pressure. One of the reasons why it is desirable to have the patients stay in bed is that there is a danger of prolapse of the viscera. With the abdominal wall frequently very flabby, the upright position probably does favor the tendency to enteroptosis, and as our Chairman pointed out yesterday, it is one of the things that has a bearing on female disease. If a woman is allowed to go around without much control, she is around more than she should be, and I believe it is harmful to let her do as she pleases. It is going too far. Certain restrictions and limitations must be laid down. All the advantages of early rising can be obtained by tne use of the exercises I have mentioned. I am positive of that. Besides, you leave the patient in better condition than she would be if no massage were used. She will rest better.

I do not see how the position on the back can cause a displacement of the uterus. There is also some doubt in my mind about the effectiveness of tamponade. The proper involution of the ligaments, as well as the reëstablishment of intra-abdominal pressure, is an extremely important thing in preventing displacement.

Breast massage should be used only in a few cases; when the breast is extremely tender it is very beneficial. However, as usually practiced, it causes intolerable pain, whereas the massage such as I describe gives great relief to the patient. As to the influence of massage in cases of non-lactation, with the view of affecting the uterus, I should imagine that it might be useful, but I can not speak from experience.

A CONTRIBUTION TO URETERAL SURGERY WITH FOUR CASES, INCLUDING A NEW OPERATION FOR DOUBLE URETERO-VAGINAL FISTULA.*

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PITTSBURG, PA.

Injuries to the ureters are unquestionably among the most serious and distressing complications which the surgeon can encounter in the course of his pelvic and abdominal work. Whether it be in the course of an operation for malignant disease, in which the ureter has become involved in the neoplasm, or the result of an accident, such an injury always proves a great trial to the nerve and skill of the operator. Accidents of this character will, no doubt, occur in the life of every busy abdominal and pelvic surgeon, no matter how careful and experienced he may be, and it is therefore his duty to prepare himself to deal with them promptly and skilfully. The technic of ureteral surgery fortunately has been perfected to such a degree that it is no longer necessary to follow an injury of the ureter by such a formidable operation as the removal of the kidney; it will nearly always be possible to repair the damage either by a ureteral anastomosis or an implantation into the bladder without sacrificing such an important organ.

In my own experience of about 1,500 celiotomies the ureters were severed four times, always in the course of an abdominal section; twice because the ureters were imbedded in the malignant tumor removed and twice they were divided by accident; in one of these both ureters were injured, one was cut and the other occluded by a ligature, subsequently forming a double ureterovaginal fistula.

NARRATION OF CASES.

CASE 1.—Mrs. O. H., 64 years old, referred to me by Dr. Pool, operated on at Mercy Hospital June 29, 1898. The tumor

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

was a large sarcoma, of right ovary, weighing about twelve pounds. When opening the abdomen it seemed an operable case, but the posterior and lower surface of the tumor was so firmly adherent that the enucleation proved exceedingly difficult and bloody. In delivering the tumor both the right iliac artery and vein and the ureter, which were firmly imbedded in the neoplasm and their walls infiltrated, were torn across.

Fig. 1.—Shows ureteral orifices as black dots at vaginal cul-de-sac (pan-hysterectomy previously done).

The blood vessels were, of course, secured at once; the ureter, however, was simply brought out through the abdominal wound, as the patient was collapsed and pulseless. She succumbed about an hour after operation.

CASE 2.—Mrs. C. K., referred by Dr. Earnest, was admitted to Mercy Hospital Feb. 8, 1901. The examination showed an intra-ligamentous ovarian tumor of considerable size, pushing

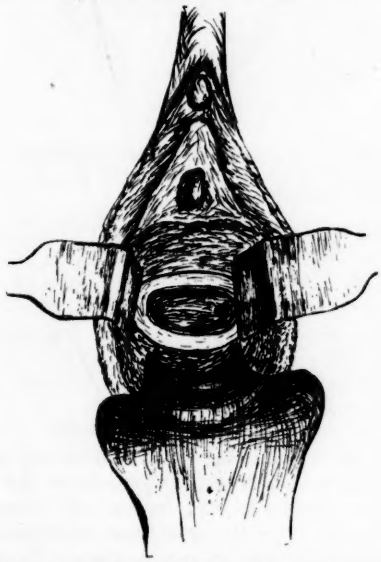

Fig. 2.—Shows annular denudation of vaginal mucosa one inch from its apex.

the uterus, which was much enlarged, to the left of the pelvis. The cervical canal was patulous, containing a friable, bleeding mass, which proved to be carcinoma. The bleeding had reduced the patient a good deal and the enlargement of the abdomen made her very uncomfortable. An exploratory incision, made February 23, exposed an apparently simple intra-ligamentous cyst, which, however, proved to be malignant, the base of it being in the right side of the pelvis. After removing the cyst as far as possible, the right ureter was found imbedded in the solid portion of the tumor and had been torn away with it. It is of interest to note that it was a double ureter, consisting of two lumina, separated by a connective tissue wall, resembling the two barrels of a shotgun. After controlling the bleeding from the large raw cancerous surface remaining in the pelvis, implantation of the ureter into the bladder was made. About half an inch of the infiltrated end having been removed, the

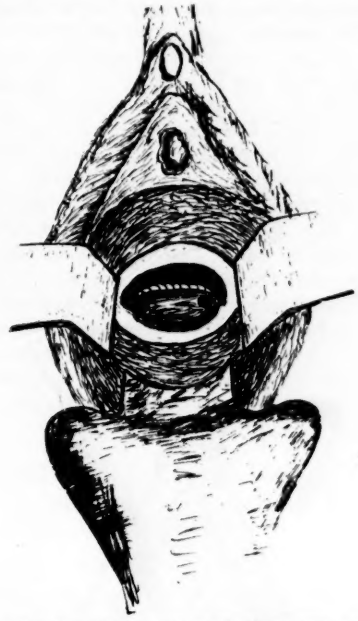

Fig. 3.—Annular denudation of vaginal mucosa with opening of vesicovaginal wall, lower margin of wound free. Vesical and vaginal mucous membrane of upper margin whipped together.

ureter was inserted into a slit made in the bladder, and first attached to the vesical mucosa and then surrounded by interrupted muscular and serous sutures of catgut. The large uterus was utilized to cover up the extensive, exposed carcin-

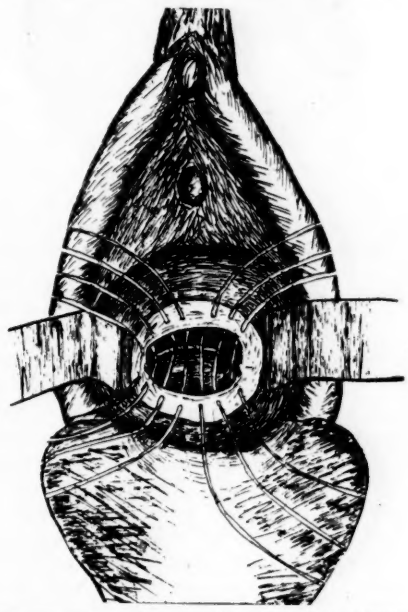

Fig. 4.—Shows free communication between bladder and upper vaginal segment. Sutures for closing annular denudation latterly introduced.

omatous surface in the pelvis, for which purpose it was attached over it by a few catgut sutures. Gauze drainage was used. The patient had a perfectly normal convalescence and left the hospital in good condition. Her subsequent history is unknown.

CASE 3.—Mrs. B., referred by Dr. Sands, was admitted to Mercy Hospital May 14, 1901, with carcinoma of the cervix

with rather extensive involvement of the vaginal fornices. May 16, abdominal pan-hysterectomy was performed according to the author's method. Considerable infiltration of both parametria complicated the operation very materially; there was an unusual amount of bleeding difficult to control, greatly interfering with the work in the pelvis, which, no doubt, accounts for the accidental division of the right ureter, about three or four inches from its insertion into the bladder-wall. Immediate implantation in the right fundus of the bladder was accomplished after considerable difficulty due to the shortness of the ureter and the rather small bladder. Catgut was used for the vesical mucosa, but fine silk for the muscular and serous sutures. The very great tension at the point of implantation was relieved by putting the bladder on a stretch and then suturing the right side of the bladder to the pelvic wall by numerous catgut sutures and stitching over the ureter peritoneal folds according to the method, I believe, first suggested by Witzel. The patient's convalescence was interrupted only by a small vesico-vaginal fistula, which healed spontaneously in time.

CASE 4.—Miss F. G., aged 33. For the last four months her menstrual flow has been very profuse, prolonged and irregular, preceded and accompanied by severe cramps in the lower abdomen. On examination a firm, solid tumor, extending to the umbilicus and completely filling up the pelvis, is found connected with the uterus; even the lower segment of the uterus

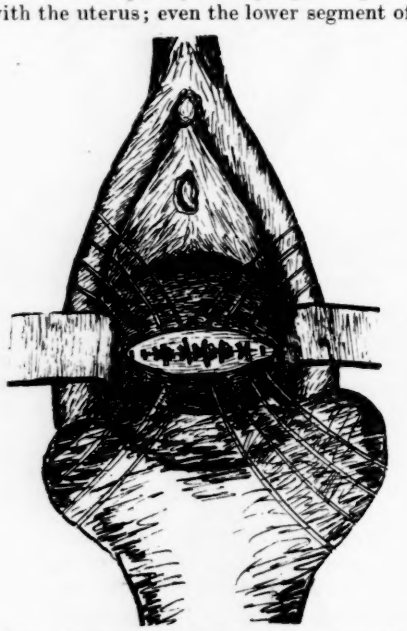

Fig. 5.—Shows transverse closure of upper margin of annular denudation, stitches inserted for closing lower margin.

is much enlarged, the cervix dilated, admitting with ease the index finger. Immediately after menstruation the cervical dilatation was considerably increased, and a roundish mass was felt protruding from the external os. Later the tumor receded within the cervical canal, but there remained a sero-sanguinolent discharge from the cervix with some odor. The diagnosis was a large, submucous fibroid of the uterus with partial extrusion of the tumor during menstruation.

The suprapubic hysterectomy March 11 proved exceedingly difficult, as it was impossible to lift the uterine mass from the pelvis, the tumor blocking the latter so completely that much of the work had to be done blindly, aided by the sense of touch alone. Bisection of the uterus with enucleation of the tumor, which would have been the most practical method of dealing with the case, was considered too dangerous on account of the certainty that at least a portion of the tumor had become septic. I finally succeeded in opening the vagina from above and, cutting very close to the cervix, freeing the latter from its vaginal attachments, though not without profuse bleeding, producing dangerous prostration of the patient. The tying was done as closely to the cervix as possible, having constantly in mind the dangerous proximity of the ureters. The vagina was closed with catgut sutures and the peritoneal flaps sutured over the field of operation.

The patient reacted rapidly under stimulation after the operation, but catheterization about six hours after operation produced only three drams of urine. After that not another drop of urine was obtained. It being evident that both ureters had become damaged in some manner during the operation, the abdomen was reopened the next morning about fifteen hours after operation, under ether anesthesia and the field of operation exposed. The right ureter was soon found among a bundle of large veins completely severed; the left one included in the ligature around the uterine artery, uninjured. It was therefore simply liberated. The right one was implanted into the bladder by means of several rows of catgut sutures and the tension, which was considerable, was relieved by attaching the right bladder wall to the pelvic wall of that side and covering the ureter with peritoneal folds, as practiced in the last case. As a safeguard, the vagina was left open and a strip of iodoform gauze introduced from the pelvis into the vaginal canal.

Though the patient was very weak after this second operation, she again rallied and promised to make an uneventful recovery, when on the fifth day the quantity of urine perceptibly diminished and a vaginal discharge was noticed. Two days later absolutely no urine was obtained from the bladder, but there was a free urinary drainage from the vagina; all the urine from that time coming away per vagina. Though the latter was kept scrupulously clean, several chills occurred followed by high fever, vomiting and pain in the region of the

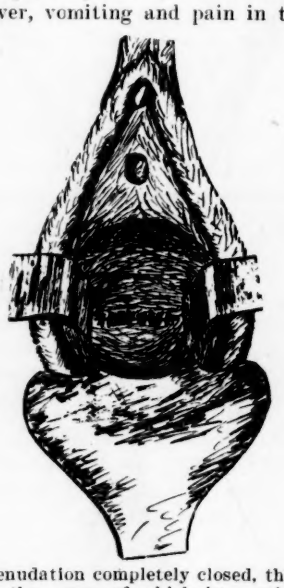

Fig. 6.—Shows denudation completely closed, thus dividing vagina into two segments, the lower of which is a cul-de-sac, the upper communicating with bladder.

kidneys, which symptoms were attributed to an ascending infection along the course of the ureters. These attacks subsided in the course of a few days. Three such attacks were observed during her convalescence. She finally recovered entirely and was able to go home May 12, 1901. She remained well during the next five and a half months, though the urinary discharge per vaginam was very distressing to her and she was extremely anxious to be relieved from it.

She was re-admitted to the hospital Nov. 1, 1901, and for about ten days her bladder was washed out daily and its atrophy partially overcome by filling it to its full capacity with boracic acid solution. The vagina was completely healed, the upper portion where the cervix had been removed was considerably narrower than the vagina proper, the vaginal canal being, therefore, slightly funnel-shaped, the apex of funnel containing on each side a minute opening through which the urine was seen escaping. I was strongly tempted at first to open the abdomen again and do another implantation, but finally decided on another safer procedure, consisting in a plastic operation, by which the upper, narrowed portion of the vagina was turned into a diverticulum of the bladder. A circular incision was made in the upper third of vagina, about an inch or an inch and a half below the insertion of the ureters. This incision was carried clear around the vagina and ante-

riorly extended into the bladder, dividing the posterior wall of the bladder transversely. The mucous edges of the vagina were dissected up a little all along the incision, for the purpose of obtaining a narrow annular strip of denuded surface. The mucous membrane of the upper edge of the incision into the bladder was then attached to the free edge of the mucous membrane of anterior wall of vagina, by means of a continuous catgut suture. The lower edge of the bladder wall, however, was drawn out and sutured to the upper edge of the vaginal mucous membrane of the posterior wall, thus forming the bladder diverticulum, using interrupted catgut sutures. The vaginal mucous membrane of the anterior wall was now attached to vaginal mucosa of the posterior wall as well as to the sides by silkworm-gut sutures, covering in the bladder sutures and completely closing in the upper conical portion of the vagina into the bladder. The urine from now on was passed by the bladder without much discomfort and in the course of a week or so the bladder had resumed its function, just as before. When the silkworm-gut sutures were removed, a small fistulous opening formed, by which some of the urine escaped per vaginam, but a few sutures closed that up permanently. The patient was discharged from the hospital perfectly cured January 23 and has experienced no further trouble from that source, having enjoyed very good health ever since.

Before discharging her a cystoscopic examination of the bladder was made. The bladder was divided into two compartments, a large one, consisting of the bladder proper and a small one, the upper portion of the vagina, and between these a free

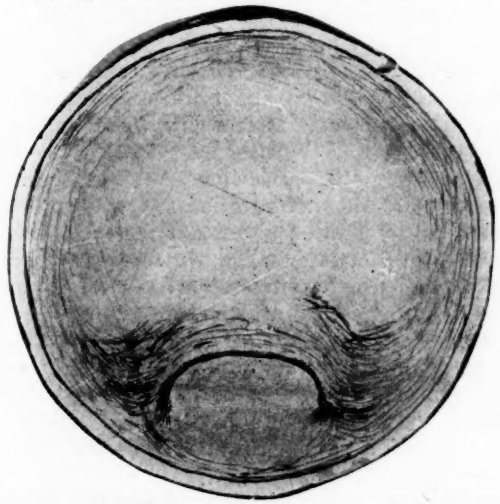

Fig. 7.—View of interior of bladder as seen through cystoscope. The small pouch represents the upper segment of vagina; it contains ureteral orifices. The large pouch is fundus of bladder.

communication exists. The bladder mucous membrane was of normal appearance, the vaginal mucous membrane seemed somewhat reddened. I have had no opportunity of making another cystoscopic examination since, as I had hoped to do. It would be exceedingly interesting to learn whether the vaginal epithelium has been supplanted by vesical epithelium, a transformation which does not seem impossible under the circumstances.

REMARKS ON THE METHOD.

The operation has been so satisfactory that it can certainly be recommended as the best procedure in similar cases. It differs entirely from the old colpocleisis, because it establishes a large free communication between the upper portion of the vagina and bladder; it unites accurately the edges of the mucous membrane of the bladder with those of the vagina; it leaves the vagina proper practically intact, as it only includes the vaginal fornices and that part formerly occupied by the cervix, and does, therefore, not interfere with cohabitation. The operation might be termed a cystocolpostomy, bringing together as it does an opening made in the bladder with that part of the vagina just below the insertion of the ureteral fistulæ.

CONCLUSIONS.

The failure of the implantation after holding at least five days must be due to the catgut, which was exclusively used. After it gave way the tension was, no doubt, great enough to separate the freshly-united ureter and bladder. This experience should teach us the lesson to use only silk for at least the muscular and serous sutures when there is the least tension, as the durability of catgut is always a somewhat uncertain factor. The very tight silk ligature which had included the left ureter, had evidently damaged the vitality of that structure to such an extent that necrosis of its wall took place, causing the urinary fistula. Fortunately the gauze drain passed from the pelvis into the vagina kept a way open for the urine to escape, thus unquestionably saving the patient's life.

The unreliability of catgut for bladder implantation of the ureter, especially when tension exists; the danger of necrosis of the ureter when compressed beyond a few hours, and the importance of vaginal gauze drainage in injuries of the ureters are a few of the practical lessons which have particularly impressed me in this unique case.

STRICTURE OF THE URETER.*

HOWARD A. KELLY, M.D.
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It is not a little strange that although enough has been written about strictures of the urethra to fill volumes, practically nothing, and next to nothing practical, has been said of strictures of the ureters.

A stricture of the urethra is the occasion of a damming up of the urine in the natural vesical reservoir, and as soon as such an accumulation reaches a point beyond physiologic limits the desire to urinate becomes so imperative that relief must be found either by natural or by artificial means. If a urethral stricture repeatedly asserts itself in this way the victim hastens to a surgeon and continues under his treatment until some measure of relief is secured. It is quite otherwise with a stricture of the ureter, which may develop gradually and in which the signs are often not at all urgent; the lumbar pain, due to the urine forced back into the kidney, is often misinterpreted and temporizing methods are instituted until the kidney is thrown out of function, and, when at last an operation is determined on, the kidney, being the organ most in evidence, is victimized and the surgeon announces that he has operated successfully on a hydronephrosis or on a pyonephrosis. Not at all; in many instances he has simply operated for one of the late sequelæ of a stricture of the ureter, and, contrary to the true teaching of scientific surgery, he has been content to treat the effect, while he leaves the accessible cause untouched.

It is my earnest desire to-day to insist on more searching and more thorough investigation as well as on better discrimination in handling diseases of the upper urinary tract, in which term I include the entire urinary apparatus above the bladder.

USE OF TERMS: OBSTRUCTION AND STRICTURE.

A stricture of the ureter, properly so called, is a narrowing of the lumen of the ureter produced by an affection of the ureteral walls. Such a stricture forms an obstruction to, and impedes the flow of the urine just in proportion to the degree of the narrowing. A stric-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. H. Cordier, W. E. B. Davis and Henry P. Newman.

ture in this sense is but one of the various forms of obstruction of the ureters, but there are many obstructions which are not strictures, although all obstructions produce a narrowing of the ureteral lumen.

Obstruction is the generic term for any hindrance to the downflow of the urine, while stricture is specific in its designation, being limited to intrinsic narrowings due to disease of the ureteral walls. In order to retain a clear impression of the group of cases we are about to study, it is most important to emphasize this distinction at the outset.

The ureter may be obstructed from within by something, such as a calculus choking its lumen, and thus producing the same effect as a stricture, by holding back the urine. It may also be obstructed from without by a fibroid or ovarian tumor pressing on it to such an extent as to prevent the transmission of the urine on to the bladder. In other cases the obstruction may be caused by a twisting of the kidney, which effectually impedes the outflow of the urine. Such obstructions as these, however, can not be called strictures, unless the walls of the ureter become, in time, organically affected, so that permanent narrowing results and remains even after the restoration of the kidney to its normal site and posture.

The difference between true strictures and other obstructions may be thus defined. If you remove an obstruction by taking away the tumor, undoing the twist, or lifting the calculus, the urine flows on unhindered; but you can not remove the stricture without either stretching or resecting the affected portion of the ureter.

The importance of a stricture lies in its interference with function, and the resulting obstruction offered to the downflow of the urine. A slight narrowing may produce no backing up immediately, but as the constriction progresses the urine is detained and the ureter begins to swell until from a little white cord it forms an elongated flaccid sac filled with urine, one centimeter, or two to three in diameter. At first it retains its own course, but as it becomes more distended it bulges out toward the flank, and any vessel traversing its lumen may cause a prominent bellying over and further obstruction.

Pari passu with the distension of the ureter goes the distension of the renal pelvis and the formation of a hydronephrosis, at first of lesser then of greater and yet greater degree. The retention of the urine above a stricture changes the balance of pressure in the kidney, and in this way less and less urea is excreted from the affected side. A ureteral stricture is rarely bilateral, so that the opposite kidney remains unaffected, and is fully able to maintain the balance of the economy by an increased excretion of urea.

The importance of recognizing a ureteral stricture is enhanced by the fact that in many instances the affection is susceptible of direct treatment and relief, whether early or late in the progress of the disease. Here I would pause to reiterate and to emphasize the importance of a correct name. We must, with better discrimination, call many of our cases hitherto labeled "pyonephroses" and "hydronephroses" by the proper name "stricture of the ureter" and then describe the secondary changes produced by the accumulation of urine or pus in the upper urinary tract. If the disease is thus properly recognized and classified as a stricture, the stricture will then be sought out and treated, while as long as such names as "pyonephrosis" and "hydronephrosis" are current, just so long will surgeons be content to operate for the relief of the accumulation, or to sacrifice the kidney, neglecting the true cause of the disease. The physiologic value of such an obstructed kidney has been repeatedly demonstrated; for, even after the blockade has existed for many months the kidney may resume a remarkable degree of activity, and if it is the only kidney it may still suffice to prolong life.

In one instance, for example, I removed a large right pyonephrotic kidney with a calculus, and at a later date the opposite kidney, which had been slightly infected from the first, grew so bad that the urine was simply a mass of pus, so foul the nurse could not stay in the room with an open vessel. I washed the kidney out repeatedly when the pus and infection gradually lessened, and the patient is to-day apparently well and active. Another patient had a large right hydronephrotic kidney, a mere shell as big as my two fists, with milky urine and a colon bacillus infection; there was no secretion from the left side at all. After the removal of a stone from its pelvis she continued to live for two years on this shell, secreting about 80 ounces of urine a day.

CLASSIFICATION OF STRICTURES.

Strictures may be grouped according to their, *a*, location; *b*, extent; and *c*, cause.

The location of a stricture may be at any point in the ureteral tract from the vesical orifice up to the renal pelvis, the commonest point being at the vesical end. I have seen but one case of well-defined stricture at the renal end, and one case of stricture of the abdominal portion of the ureter at about its middle on the psoas muscle; all other cases have been at the terminal portion, that is to say in the anterior part of the true pelvis, somewhere along the pelvic floor.

The extent of the stricture may vary from a narrowing of the ureter limited to one particular area not more than a few millimeters in length, to one several centimeters or more in length and cylindrical in form. I have seen but one case of stricture limited to a small area. In that the right ureteral orifice was almost closed by an inflammatory process involving the vesical wall surrounding the ureter, and as soon as I discovered the minute opening in the puffy injected vesical mucosa and introduced a catheter, a free flow was established and the pent-up fluid escaped.

Strictures are caused by an inflammation in the ureteral walls produced by the commoner pyogenic cocci, by the gonococcus and by the tubercle bacillus. The commonest form of inflammation is that due to the tubercle bacillus, and the rarest in my experience in women is due to the gonococcus.

SYMPTOMS OF STRICTURE.

The symptoms produced by a stricture in the early stages are those of the associated infection which is rarely localized in the ureter until the disease is well advanced in the bladder or in the kidney. The symptoms may then at first be those of a vesical or of a renal inflammation. I know of no particular symptom diagnostic of stricture even in the advanced cases; it is, however, safe to assume that in a large percentage of cases of advanced renal infection a ureteral stricture will be found.

The diagnosis is made by a direct investigation of the urinary tract by: *a*, palpation; *b*, inspection; *c*, catheterization.

The pelvic portion of the ureter is the one part which is easily accessible to palpation, and in a woman a stricture in this portion can often be felt in a vaginal examination. The ureter, lying just above Pawlik's folds in the vagina, feels like a distinct, more or less rigid cord;

it is sometimes shorter than the sound ureter and its vesical orifice may be drawn well over to the side. A well-defined difference even between the two ureters in a case of pyuria is always suspicious. As I write this paper I have a case on hand in which there was an apparently causeless pyuria; the turbid urine remained normally acid and no organisms grew on the ordinary media, but on making a vaginal examination I found that the right ureter, while hardly enlarged, was still decidedly more distinct and cord-like than the normal left ureter. Although no renal symptoms had been noted since the disease began some four years ago, I made a preliminary diagnosis of involvement of ureter. A vesical examination revealed a normal left ureteral orifice while the right orifice was in the center of a puffy, deeply injected area. A fine ureteral catheter showed the presence of one of the tightest strictures of the vaginal portion of the ureter I have ever felt; the catheter could only be pushed up when stiffened with a strong stylet, and with considerable force. After the stylet was withdrawn, a measurement of the pelvis of the kidney showed that its capacity had been enlarged to 30 c.c., and upon injecting that amount of fluid there was no reflux of the aniline solution into the bladder as the catheter was so tightly gripped by the stricture.

When the lower end of the ureter is much diseased it often feels like a cord as thick as a pencil, and sometimes it is irregular and nodular. All the cases of this kind I have seen have been instances of tubercular ureteritis.

The upper ureter in men and women is also palpable through the air-distended rectum. To feel this portion distinctly, wash out the bowel, put the patient in the knee-breast posture, and let air into the bowel; when the latter is fully distended, turn the patient over again into the dorsal position, keeping the hips elevated, and then palpate the ureter up along the lateral and the posterior pelvic wall.

DIAGNOSIS OF STRICTURE.

In making a diagnosis of stricture of the ureter, I would emphasize the following important points:

The ureteral area is sometimes swollen, deeply injected or surrounded by areas of ulceration; the opening is often obscured so that it appears like a mere dimple in the midst of a large cushion of puffy mucosa, or its presence is merely indicated by a few radiating lines on an elevated ridge of vesical mucosa. This ridge is formed by the expansion of the bladder giving unusual prominence to the rigid thickened ureter. In attempting to catheterize such an orifice, difficulty is often experienced in introducing the catheter; a small-sized catheter must, as a rule, be used, one not over two or two and a quarter mm. in diameter; the difficulty of pushing the catheter up the ureter is so great at times that the surgeon fears perforation of the ureteral wall; there is often an immediate flow of urine as soon as the stricture is cleared, and the urine sometimes even commences to dribble out of the catheter before the stylet is withdrawn. On removing the stylet the urine often escapes in a steady uninterrupted stream. If the catheter is pushed on up into the kidney, the dilated renal pelvis at once begins to empty itself of its retained urine, discharging 15 to 30 or more c.c. of urine which sometimes contains pus, and a considerably diminished amount of urea. Its reaction is feebly acid or else alkaline. After emptying the kidney, fluid may be forced into it until the pelvis is distended, which will be recognized by the resistance appreciated by the fingers in squeezing the bulb, as well as by the renal colic which begins to come on with the slightest overdistension.

In cases where there is no stricture the slow injection of the kidney, using a small-sized ureteral catheter, is not attended with pain, as the solution flows down the ureter at the side of the catheter and escapes into the bladder as rapidly as it is injected. If an aniline solution is used and a catheter is put into the bladder, it is easy to tell the moment the fluid runs down the ureter by its appearance in the vesical catheter. In cases of stricture, on the contrary, there is, as a rule, no such reflux and the urine flowing from the bladder continues uncolored, even when the pelvis of the kidney has been well distended. If after emptying the pelvis of the kidney, the ureteral catheter being still *in situ*, the patient is made to bring her body into the erect posture while still on her knees, upon withdrawal of the catheter at each successive level down to the stricture there is an escape of a few c.c. of urine. The catheter used in this way taps the ureter at different levels and demonstrates clearly the dilated condition of the ureter as well as the presence of the stricture below. As the tip of the catheter enters the stricture, the flow ceases. When the end of the catheter lies free in the midst of a considerable quantity of urine, the act of coughing, or voluntary strain increases the flow from the end.

The most characteristic of all the signs of stricture of the ureter, and one complementary to the obstruction encountered in introducing the catheter, is the strong bite of a tight stricture felt upon withdrawing the catheter; the catheter may be held so firmly that any slight traction only serves to displace the ureter a little *in toto* without causing any change in the relative position of catheter and ureter. The withdrawal of the catheter in some instances yields much the same sensation as pulling it out of a vise.

If one is careful to note the point at which flow of urine ceases and then to mark the point at which the stricture is cleared, and the catheter is no longer held in its bite, an approximate idea of the length of the stricture may be gained. To do this I inject the kidney and ureter with the catheter so as to have the distended upper urinary system full. I then slowly but steadily remove the catheter, watching the flow from the end all the while; the moment there is a sudden check in the flow, which is not resumed, I measure or mark the catheter at the external urethral orifice, or else measure the length of the catheter outside of the urethra. By knowing this measurement it is easy to calculate the distance from the internal ureteral orifice to the upper end of the stricture, by deducting the already known and easily measured distance from the urethral orifice to the ureteral orifice. I next measure in the same way the point at which the catheter is felt to be freed from the bite of the stricture; this measurement, compared with the first, gives with fair accuracy the length of the stricture. The first measurement must be made to the eye in the catheter which controls the flow and the last to the point beyond the eye where the end begins to contract.

TREATMENT.

The proper treatment of a stricture is a matter of the utmost practical importance, as almost all cases sooner or later need active measures of relief, which, if appropriate, may save the patient from undergoing a serious operation at a later stage of the disease.

In order to decide on the proper course of treatment a careful and correct diagnosis is indispensable. This diagnosis must rest on precise information on two important points. First, as to the site, the extent, and the

character of the stricture, which demonstrates the condition of the strictured area, and its amenability to treatment; second, as to the state of the urinary tract above the stricture, which shows the extent of drainage, and the possibility of relieving it in any measure by palliative treatment.

BY DILATATION.

The simplest and most satisfactory method of treating stricture is dilatation by means of bougies; but, unfortunately, when the stricture is a tight one, due to much thickening in the walls of the ureter, the effects of the dilatation are often only temporary. I cite a few of the more fortunate cases, selected from a large number.

CASE 1.—Eight years ago a patient came to me with a tight tortuous stricture of the left ureter beginning at its vesical orifice, and extending for about two centimeters. Examination of the urine by Dr. Barker showed diplococci which had the typical appearance of gonococci. I dilated this stricture with metal dilators, and washed out the urinary tract above with bichlorid of mercury and nitrate of silver, until the urine, previously full of pus, became clear, and was reduced, in the amount accumulated in the upper tract, from 150 centimeters to less than 100. Under this treatment the patient was so entirely relieved that she returned home contented and has since remained in perfect health.

CASE 2.—Mrs. C., aged 37 (J. H. H. 9288), December, 1901. Pain in the lower left side of the abdomen, with occasional hematuria, the latter dating from catheterization after the uterus was curetted four months previously. On attempting to catheterize the left ureter the catheter was strongly grasped as it entered the orifice, and could not be passed upward except by leaving in the stylet. The ureteral orifice was dilated several times with metal dilators up to five millimeters. No culture was obtained from the urine which was normal. Three months later the patient was catheterized and no stricture was found.

CASE 3.—Miss P., aged 28 (J. H. H. 7936), June, 1900. Chief symptom hematuria, occurring intermittently for three years. No pain on urination, nor increased frequency; occasional pain and slight tenderness on deep palpation in the left groin. Introduction of a wax-tipped catheter showed indefinite scratch-marks on two occasions. The catheter was grasped firmly as in a stricture. On operation no stone was found in the kidney. At a second operation three weeks later by the extra-peritoneal incision, the ureter was opened and a wax-tipped catheter passed down to the bladder, where a stricture was found in the last two centimeters. This stricture was dilated up to three millimeters by metal dilators passed downward. During convalescence the dilatation was continued from below upward. Complete recovery.

CASE 4.—In another case I dilated the ureter in the opposite direction, that is to say, from above through the renal pelvis. It was that of a man 42 years of age who had had his first attack of pain Jan. 8, 1879, when he was thought to have intussusception; following this he had periodic attacks of nephritic colic involving the left kidney and extending to the bladder. His condition had been diagnosed as stone in the kidney and muscular pain. I operated upon him June 12, 1900, and found a large flaccid pelvis of a hydronephrosis caused by a tight stricture about 2.5 cm. below the kidney which would not admit a small probe 2 mm. in diameter. Finding myself unable to resect this portion of the ureter, which was long and narrow, I incised the thickened renal pelvis, exploring carefully for stone; found none and then dilated it. Beginning with a sound of 1 mm. in caliber, I gradually used larger sounds until one 5 mm. in diameter was passed and this was fortunately done without any apparent rupture of the ureter. The incision into the renal pelvis was closed with silk and the patient made a good recovery and has remained perfectly well and free from pain ever since.

BY CATHETERIZATION AND LAVAGE.

Simple catheterization of the ureter, and washing out of the kidney will sometimes give relief, as in the following case:

CASE 5.—Mrs. C., aged 60 (J. H. H. 8753), May, 1901. Operated on for large ovarian cyst, which was adherent to the uterus, bladder, intestines and peritoneal wall. The bladder was opened accidentally and closed with catgut. The ureter below the pelvic brim was 6 mm. in diameter and above the pelvic brim 2 cm. The kidney was felt as a large cystic mass, and was easily emptied by pressure, 320 cubic centimeters of urine flowing into the bladder. Examination of urine withdrawn by catheter showed a specific gravity of 1015, a distinct trace of albumin, a few irregular small epithelial cells, but no pus cells. The wound healed by primary intention, but on the 13th day a clearly defined mass was discovered in the hypogastrium. No bladder symptoms were complained of, but pus cells were found in the urine at the end of twenty-four hours. On the 15th day the temperature, which had been normal, rose to 102 F., with severe pain in the right side accompanied by a large fluctuating mass in the right flank. On catheterization 270 cubic centimeters of purulent urine was collected in thirty minutes. Boric methylene blue was then allowed to run into the kidney, which was found to hold 350 cubic centimeters without any return, showing the presence of a stricture at some point. Rapid improvement with a drop in temperature followed the irrigation. The kidney was washed out about twice a week for nearly three weeks with a solution of formalin 1-5000, a small catheter 1¾ millimeters being used, and the formalin allowed to escape past the catheter into the bladder. At the last irrigation there was still some pus in the urine, but the patient had no symptoms, and the kidney held only 170 cubic centimeters of the formalin solution as compared with 350 at the first washing.

The following is a remarkable case of temporary stricture, easily overcome by passing the catheter but once:

CASE 6.—Mrs. P., aged 37 (J. H. H. 7375), November, 1899. Operated on by Dr. Miller for extensive pelvic inflammatory disease. The right ureter was clamped in the attempt to catch a bleeding uterine artery. The ureter was tied in two places but these ligatures were cut later, and the ureter found on examination to be uninjured from the bladder to the brim of the pelvis. Soon after recovering consciousness the patient complained of severe pain in the region of the right kidney, and there was an appreciable diminution in the amount of urine excreted during the next twenty-four hours. At the end of that time I catheterized the right kidney under chloroform, on account of suspected ligation. The introduction of the catheter was followed by an immediate flow of urine in moderate amount. No stenosis was then present. The relief from pain was immediate, and the patient made a good recovery.

BY FREEING THE URETER FROM ADHESIONS.

Where the ureter is involved in inflammatory tissue it may sometimes be sufficient to dissect it out of its bed of adhesions and set it free as illustrated in the following case:

CASE 7.—Patient 57 years of age, who had for many years been a constant sufferer from obscure pains in the left loin and hip. I injected the left kidney with fluid through a ureteral catheter, producing an attack of renal colic and brought on an attack of pain similar to that from which she had been suffering. After an operation suspending the kidney, which failed to relieve, an incision in the left loin revealed the ureter buried in a mass of inflammatory tissue in the midst of abundant fat for an extent of about 3 cm. at a point lying on the psoas muscle about half-way down to the brim of the pelvis. I freed the ureter from its bed and closed the wound; she made a slow recovery, but is now, over two years after the operation, completely relieved of her old trouble.

BY RESECTION.

Resection of the ureter is a possible form of treatment, but one which can rarely be used.

BY EXTIRPATION OF THE TRACT.

In cases of stricture due to tuberculosis the best line of treatment is not conservatism, but extirpation of the diseased kidney, and in some cases the ureter as well. The latter operation I have called nephro-ureterectomy or uretero-nephrectomy, according to whether the ureter or the kidney is removed first. The following case illustrates this mode of treatment:

CASE 8.—Miss R. began to suffer at the age of eighteen with an irritable bladder. I saw her sixteen years later, and felt a thick hard nodular left ureter through the vagina. The left ureteral orifice was puffy and everted, so that a catheter was passed in with difficulty; after carrying the catheter to a point back of the broad ligament there was a sudden escape of pale lemon-colored urine which flowed steadily until it filled a large beaker, while during the same period of time only a few cubic centimeters of dark-colored, acid urine was collected from the opposite side. The urine from the left side was infected, containing pus and tubercle bacilli. On March 30, 1893, I did a left nephro-ureterectomy, removing the ureter down to the pelvic floor. From this she recovered, and has since had no return of trouble.

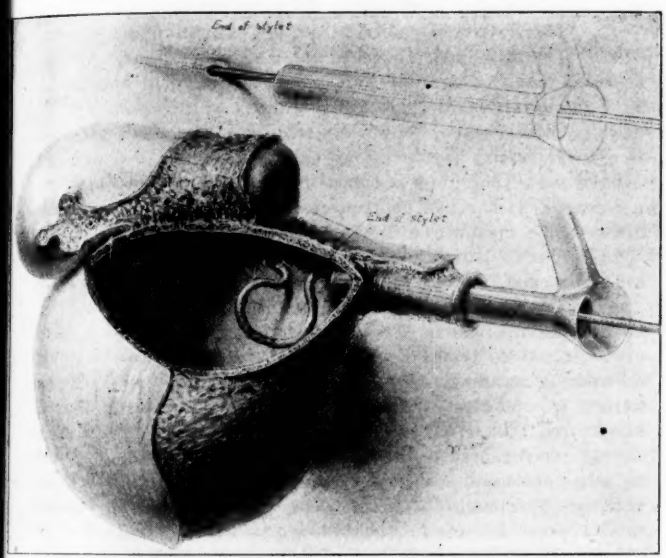

Figure 1.

BY TRANSPLANTATION.

Amputation and implantation of the bladder is useful in some cases, especially where the opposite side is diseased and yet is capable of doing some work. One of my most recent cases was that of a patient of Dr. Lutz of Glen Rock, Pa.

CASE 9.—The patient, aged 30, had an area of ulceration around the right ureteral orifice, and on introducing a catheter it encountered an obstruction which could not be overcome. On making another attempt, two days later, the catheter doubled on itself just within the ureteral orifice (Fig 1). I then introduced one of my silver ureteral catheters, and succeeded in clearing the stricture in the ureter, when there was an immediate free and steady flow of pent-up murky urine. Although considerable pus was present no tubercle bacilli could be found. Believing the case, therefore, to be one of inflammatory thickening, with the aid of my first assistant, Dr. Hunner, I anastomosed the left ureter into the bladder, after opening the abdomen and cutting the ureter off at a point back of the broad ligament, above the stricture, where it was dilated. She did fairly well after this operation and returned home, but a few weeks later, during my absence, Dr. Hunner was called to see her for a serious abdominal illness. On opening the abdomen, he found a most extensive disseminated tuberculosis starting from the affected ureter. At the present time she is recovering from this operation, but it will shortly be necessary to remove both ureter and kidney.

I can not pass by this case without adverting to the lessons it teaches. In the first place, in my experience, all large nodular ureters are tubercular; in the second place, the tubercle bacilli may be extremely difficult to find even when the disease is advanced. Tuberculin ought to be used in all these cases.

BY DIVISION OF THE STRICTURE.

I add the following case, occurring in the practice of Dr. Hugh H. Young,* which is of special interest as showing the association of stricture of the ureter with calculus, and also as suggesting a useful method of treatment for cases in which a stricture at the lower end of the ureter is unusually light.

CASE 10.—The patient, aged 27, had had attacks of renal colic for twenty-five years. On catheterization an impassible obstruction was met one or two centimeters above the ureteral orifice, and no urine was obtained from the left side. An *x*-ray photograph showed a shadow about as large as the thumb-nail, in the region at the end of the left ureter. On operation the ureter was found to be greatly dilated, being about one inch in diameter. A calculus 2 by 1.5 cm. was impacted at the junction of the ureter with the bladder and was removed. (See Fig. 2.) Before closing the ureter an attempt was made to pass a probe into the bladder, entirely without success. The lower portion of the ureter was still full of urine, which

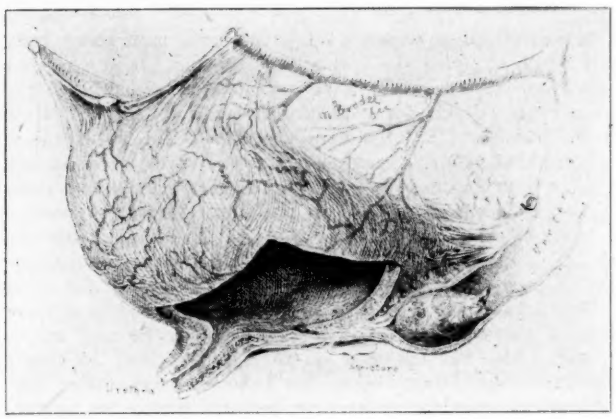

Figure 2.

could not be forced into the bladder. All attempts to dilate the stricture failed. The bladder was then drawn over into the iliac wound, and an incision made in its left lateral aspect, thus exposing the region of the left ureteral orifice. On attempting to pass a probe from below, a tight stricture was encountered more than one centimeter above the bladder. A small bulbous dilator was with difficulty passed through the stricture until it appeared in the bladder. Palpation showed a distinct hard ring around the instrument, just above the bladder, of such strength as to prevent the passage of the bulbous part of the dilator. The caliber of the stricture was about 3 millimeters, and the thickening of the ring about 4 millimeters. The stricture was completely divided with a long-handled scalpel, for the distance of about one centimeter. Large dilators and catheters were then easily passed into the bladder through the ureter from above. The incision in the bladder and that in the ureter were closed. Recovery was uninterrupted, and examination five months after operation showed that the cut edges of the left ureteral orifice had not grown together, but presented a long slit from which the urine was seen spurting.

* "The Treatment of Calculus of the Lower End of the Ureter in the Male." American Medicine, 1902.

SUMMARY OF METHODS OF TREATMENT.

I recapitulate the methods of treatment:

1. Dilatation of the stricture by flexible or metal catheters in a graduated series, up to four or five milli meters in diameter. This is the ideal method.

2. Freeing the ureter from a bed of inflammatory tissue, by dissecting it out. This is occasionally sufficient.

3. Resection of the ureter. This is rarely possible.

4. Extirpation of the entire supravesical urinary tract of the affected side, by a nephro-ureterectomy or a uretero-nephrectomy, or, as I have done in one case, a nephro-uretero-cystectomy. This is the only reliable method in cases of tuberculosis, as well as of pyo-ureter and pyelonephrosis of long standing.

5. Amputation and implantation of the bladder. This is applicable when the stricture is low down, the opposite side diseased and the diseased side still capable of doing some work.

6. Complete division of the stricture. This plan may be of service when the stricture is unusually tight.

Important accessories to the treatment, and preliminaries to any active operative interference are the evacuation of the old urine or pus accumulated above the strictures, and the sterilization of the upper urinary tract by the injection of solutions of boracic acid, bichlorid of mercury, silver nitrate, or formalin.

DISCUSSION

ON PAPERS OF DRS. WERDER AND KELLY.

DR. HENRY P. NEWMAN, Chicago—I was very much interested in both of these papers as I have a case now under treatment which is giving me considerable trouble. It is where the ureters are exposed and liable to infection and where it is necessary to operate for restoration of the urethra as well as for the closure of a large fistulous tract. The patient is an undersized woman. 39 years old, married three years and tubercular with an ankylosed hip. Two years ago she was delivered of a full term, still-born child, by forcible extraction while bladder was distended with urine. She has a contracted pelvis and the delivery under such circumstances resulted not only in destruction of the bladder floor, but also of the entire urethra. Subsequently the turning out of the bladder amounted to a traumatic exstrophy, with the trigone and ureters exposed. She was operated on three times prior to coming under my observation, first at her home six weeks after delivery and subsequently in a rural hospital where the appointments were not perfect. These procedures were unsuccessful and left much cicatricial tissue, still further complicating the difficulties of the case. I could not transplant the trigone into the rectum on account of an imperfect anal sphincter. I could not close the vagina because the parties would not consent, and, further, this would necessitate a hysterectomy and would provide for no urethral orifice nor continence of urine. The operation of MacArthur, which has succeeded so well in constructing a urethra and closing the aperture in partial destruction of the floor of the bladder, was not applicable as there was not sufficient tissue in the anterior vaginal wall and the opening into the bladder was too large. In order to obviate the difficulties and dangers of repeated operating on a tuberculous patient and to give her control of urination I have devised an operation which will appear in THE JOURNAL[1] together with the further history of the case.

If urinary control is not properly established by the method I shall use the instrument I here present—a Kolischer pessary—modified by Fletcher of Chicago. It consists of an ordinary Smith pessary with a cushion of hard rubber attached by a gold spring. It has been used successfully in a case where urination could not be controlled in any other way. A slight bearing-down impulse or straining on the part of the patient is sufficient to release the spring and empty the bladder.

1. THE JOURNAL A. M. A., August 9.

DR. RUFUS B. HALL, Cincinnati—These are two very interesting papers, and Dr. Werder's experience certainly is like that of every operator. If we keep at it long enough and operate on desperate cases, we will injure the ureter after a time. Dr. Kolischer loses sight of the fact that in these cases of malignant disease where the ureter is torn, where the tumor blocks up the pelvis entirely, where you must enucleate by the sense of touch and not by sight, where you injure the ureter in trying to operate for cancer of the uterus, where the ureter is embodied in the diseased tissue, or where you are trying to do the patient a kindness by operating on a late and desperate case, it is not always possible to avoid injury to a ureter. I have in mind two cases of injury of the ureter, one in which a fibroid developed in the broad ligament. It filled the pelvis full, and extended clear up to the umbilicus. She had repeated attacks of pelvic inflammation, and also suffered from a suppurative ovary. I enucleated this early in my experience, and I was glad when I was through and had my patient alive. I certainly expected her to die. She did not, however, and in the course of ten or twelve hours drainage was free, when the nurse called my attention to the fact that there was an odor of urine. In twenty-four hours it was evident that there was an injured ureter, but the patient recovered, and is living yet. She has a fistula in the line of the incision, but absolutely refuses any kind of an operation. The ureter was torn off some place, but she says she is perfectly content to die this way rather than have another operation.

The second case is a very similar one in many respects. She is a maiden lady, 56 years old, and was operated on some eighteen months ago for cancer of the body of the uterus. Five days afterwards there was a leakage of urine, and now she has one ureter opening into the vagina. She has wanted me to close it, but as I expected an early recurrence of the disease, I have been trying to convince her that an operation is not necessary. If she has no recurrence later on, I shall probably devise some means of relieving her.

DR. GUSTAV KOLISCHER, Chicago—So far as Werder's cases are concerned, I have no criticism to offer in the first three. The fourth is of more interest, and I would like to ask why he did not operate in the usual way. If there is any doubt about injury to the ureters, we have to cut down on them and do what is necessary at once. The operation for vesico-vaginal fistula is doubtless ingenious, but the principle is that of Mackenrodt, who advanced it some ten years ago, and he should receive credit for it. The success following it seems to be a permanent one, and I can not see why Dr. Werder did not use Mackenrodt's method entirely, as he says there is now a diverticulum in the bladder, which is dangerous. It allows the urine to gather, and to decompose, thus establishing a liability of secondary infection of the kidneys. That the epithelium of the vagina will not change to bladder epithelium is a foregone conclusion.

As to Dr. Kelly's paper, I think it is a most valuable contribution to our knowledge of the diseases of the urinary tract, and he is quite right when he says that many operations done for hydronephrosis and pyonephrosis are nothing more than incision of the sac and do not produce a cure, only affording temporary relief.

So far as diagnosis of ureteral stricture is concerned, that is a very difficult task. First, the presence of the stricture must be established, and, second, how far it extends. Even the most experienced men are oftentimes unable to answer these questions. We can tell where the stricture begins, but not where it ends. I agree fully with Dr. Kelly that radical treatment for strictures will be exsection of the ureter, according to Kelly's method, or implanting into the bladder. I do not agree with Kelly that ureteritis is most frequently caused by tuberculosis, as we frequently find it present in gonorrheal conditions. I demonstrated some years ago that we can palpate the ureters running from the pelvis as thickened cords. If we use a cystoscope and illuminate the ureter from behind, the opening is patulous and transparent for two inches. If there is any infiltration, this part is absolutely dark. When we see a dark red cord running alongside the bladder instead

of this transparent cord, which is seen in normal cases, we know that the ureter is inflamed.

DR. WERDER, in closing—As to the technic of the operation criticised by Dr. Kolischer, I am sure that exposing the ureters at the start would have been just as difficult on account of lack of room, as the operation itself. I might have introduced catheters into the ureters had I anticipated the difficulties of the case. Under ordinary circumstances bisection of the uterus with enucleation of the tumor would have been the proper thing to do, as that would have made room to complete the operation with ease. In this case, however, this procedure would have invited sepsis, as a part of the tumor was sloughing and there was an offensive discharge from the uterus and consequently infection could hardly have been avoided. I do not see, therefore, how these complications could have been avoided.

In regard to the statement that this is Mackenrodt's operation, the Doctor evidently did not understand my own. Mackenrodt's operation was done for a single uretero-vaginal fistula, the orifice of which he attached directly to a small opening made into the bladder. In my case there was a double uretero-vaginal fistula, there was no attachment made to the bladder at all, the urinary secretion was turned into the bladder through the upper portion of the vagina, which was made a part of the bladder. There is, therefore, not even a resemblance between the two operations. Why, in Mackenrodt's operation, there should be less danger of infection I can not understand, because in both operations the infection takes place through the bladder. It would have been much more difficult, if not impossible, to properly attach the orifices of both ureters to the bladder wall according to Mackenrodt's method, without gaining any advantage over the procedure adopted by me which is very simple and answers the purpose admirably in every respect. The direct implantation of the ureter into the bladder is much more liable to be followed by stricture than is the case in my operation.

DR. KOLISCHER—I would like to ask whether these cicatricial openings, now a part of the trigone of the bladder, are less liable to shrink than Mackenrodt's transplantation. His operation was devised to prevent shrinkage.

DR. WERDER—In my operation there is no fistulous connection between the bladder and the vagina, but a large free opening into which you can place two fingers and your thumb. The mucous surfaces are united very carefully, and I can not see how this large opening could shrink sufficiently to prevent a free communication with the bladder.

DR. KELLY, in closing—I am very glad that Dr. Kolischer called attention to the question of shrinking of the stricture, as I have given that considerable thought. I spoke of the urine spurting out past the stylet as soon as the catheter was introduced. If it stops there, you know the stricture does not extend above that point. By measuring the distance from the external orifice to the opening of the speculum, and the length of the speculum, then introducing the catheter as far as it will go, then measuring the distance from the speculum to the tip of the catheter, and you have the approximate location of the stricture. Those strictures usually involve the lower part of the ureter, and do not go above the pelvic brim.

As to injuries of the ureter in abdominal surgery, I have one of my assistants writing an elaborate paper on that subject, and he told me he had thirty in some thousand abdominal sections. With increasing experience I find that I am exercising extraordinary care when working in the pelvis, especially so as not to injure the ureters, and I do not have any such accidents. Bisection helps me materially in many cases. Then, most important of all, careful inspection of the ureters before the operation is completed, and I always pick them up to make sure that they are intact, and also to train my class where they must look for them. One of my assistants injured a ureter before the close of the operation without knowing it, and a couple of days afterwards the patient had severe pain in that side. He wanted to open the abdomen, but I catheterized, got the catheter through, and all pain disappeared. If I had a portion of a ureter injured, I would simply tie it, and let it go, trusting that there would be no trouble from that source. Some cases recover without symptoms when the ureter has been tied. Others would suffer considerably, and it would be necessary to make an opening into the bladder and draw the ureter into it. Dr. Hunter has devised a very careful method which has been followed by good results. I devised and published my method independently of Witzel.

THE MODERN DENTIST FROM A MEDICAL STANDPOINT.*

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One result of the Baconian method of research has been to enlighten both the scientific and the professional mind. Previous to the time of Bacon, scholastic arrogance prevailed, and the votaries of the then dawning sciences kept themselves aloof from a large portion of their fellow beings, whom they regarded with the greatest contempt or indifference. Scholasticism, long decaying, received its death-blow from Bacon. It, however, struggled desperately against its destruction and, so persistent has been the contest, that at the present day there remains a remnant of that haughty arrogance. But that is slowly disappearing before the radiance that is glowing from the secrets of ethical and physical laws that are now being revealed to man. This advance in knowledge has gradually developed a fraternal feeling among the various investigators in not only the closer, but also the more distantly allied branches of science. This accession in science has necessarily enlarged the views of man, and consequently has made inroads into that seclusiveness that had grown and encircled most of the professions, and particularly the medical profession.

It would be interesting, indeed, to trace historically the gradual crumbling of those seclusive walls, built as they were of arrogance and prejudice. But that is not our present purpose. We desire simply to emphasize the fact that it is due to this general advancement in science that we have to-day a medical profession that is liberal and democratic, and that is extending the hand of fellowship to every one engaged in the healing art, irrespective of the specialism that he may have chosen. Thus, when, in 1882, a few of the prominent practitioners of dentistry desired that a section, representing their branch of surgery, be created by the American Medical Association, their request was granted and a section of stomatology was added to the existing sections of that representative medical body. This professional recognition of dental surgeons entitles them to the privileges, advantages and courtesies due to any other member of the American Medical Association. This affiliation should be an incentive to members of local and state dental societies to occasionally discuss subjects that have a general bearing upon medical questions. This is the method followed by other specialisms, as, for instance, those of ophthalmology and dermatology.

I believe that a dental student, when matriculating at a dental college, should be impressed that he is about to enroll himself as an aspirant to membership of what is termed a learned profession. He would thus, at the beginning of his studies, realize that his curriculum must necessarily be a comprehensive one, embracing all of the studies pertaining to the profession of which he hopes to become a member. I believe few of those who have given anatomic lectures to dental students will

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. G. V. I. Brown, M. H. Fletcher and R. R. Andrews.

dissent from the statement that, with few exceptions, it is difficult to impress the dental student how important it is for him to acquire a practical knowledge of anatomy. This would not be the case if they would view the matter as they should, from a medical standpoint. Last year, when in London, I was informed by one of the examiners for English qualifications for American dental graduates, that most of the candidates were defective in anatomic and physiologic attainments. The reason for this lies in the fact that heretofore the dental student has not realized how necessary it is for him to acquire a practical knowledge of these two studies. The progressive dental surgeon of to-day is conscious that his knowledge of anatomy and pathologic anatomy is essential to him, for he sees almost daily diseased conditions in the mouth and its surroundings, the character of which can only be understood by applying the teachings of these two sciences. The dentist not infrequently observes morbid conditions in the mouth that are produced by some constitutional disturbance. He thus finds himself confronting questions pertaining to general medicine. For instance, he may find healthy teeth loosened in their sockets, perhaps an entire row of them. No other morbid conditions are apparent; there are no symptoms, nor have there been, of Rigg's disease; there is no absorption of the alveolar processes; no shrinking of the gum tissues. An examination is made of the urine, sugar is detected; the diagnosis of diabetes is made and the indications for treatment become clear. In this connection the following cases present features of interest: An English army officer suffered from a severe and continuous pain in his left eye. The oculist whom he consulted, after exhausting all means of relief known to him and affording none, decided upon enucleation. The operation was performed, but unfortunately the right, the unaffected eye, was removed by mistake. There was no relief obtained for the left eye by the operation. It was now decided that the mouth should be carefully examined, which would have been done before the right eye was removed if a dental surgeon had been consulted. The examination of the mouth resulted in the discovery of a carious tooth, and, although the tooth gave but slight discomfort, it was extracted. The result was most fortunate. The pain in the eye abated at once, and in the course of a few days disappeared entirely.

A few years ago I treated a young man for clonic spasms of the upper right eyelid. After some ten days' treatment, the condition remaining the same, I advised him to consult his dentist. He smiled at this, but did as I advised him. He returned a few days afterwards entirely relieved of the annoying affection. His dentist had discovered a small painless cavity, which he treated, in an upper molar tooth.

The clonic spasms of the eyelid in this case was evidently associated with the carious tooth, and affords a good illustration of some reflex act excited through the sensitive filaments of the second division of the fifth cranial nerve, affecting thereby some filaments of the seventh cranial, a motor nerve. These cases are illustrated, and indicate consultations should be more frequent between the dental surgeon and the general practitioner, and especially with the ophthalmic surgeon. A large number of cases could be cited to prove the dependence of one part of the human body on another part, and if the teeth were selected for this purpose, a most interesting group exemplifying this could be collected.

The teeth, although anatomically regarded as dermal appendages, have a very close functional relationship to several of the cranial, and more remotely to some of the cervical spinal nerves. How frequently are inflammatory conditions seen in the face, neck and even the external chest, that owe their origin to disturbed nutrition, brought about by irritation starting in a diseased tooth. In this connection, a case recorded by John Hilton in his classical work on "Rest and Pain," is worthy of full quotation.

"A professional friend had an enlarged gland below the external ear, the real cause of which was not quite apparent, and so he requested me to look at it. There was a slight discharge of morbid secretion in the auditory canal. We argued together, and I said: 'Very likely, it may be the result of a decayed tooth; irritation from it may be conveyed to the auditory canal and induce morbid secretion. That morbid secretion may produce slight excoriation, and that excoriation, aided by lymphatic absorption, may explain the existence of the enlarged gland.' The tooth was extracted, all the other local morbid conditions disappeared, and there was no recurrence of the local symptoms."

This case proves that irritation of a nerve, the fifth cranial in this instance, is sufficient to lead to more or less change in function and structure, and that morbid influence may, after a time, induce a deterioration resulting in ulceration, etc. How important, also, it is, that the dental surgeon should be able to diagnose in an early stage the various neoplasms so frequently seen growing in the mouth, lips, jaws and tongue. Especially is this of great moment in instances of malignancy arising in the regions mentioned. It not infrequently happens that a patient having an incipient malignant growth of which he is not conscious, has pain in a tooth, the pain in the tooth being caused by the presence of the small, malignant tumor. The failure of the dentist whom the sufferer consults to recognize the existing conditions may result in the destruction of the patient. Two instances of this kind have come under my observation during the past few years. In both cases the malignant growth was sarcomatous. One originated in the antrum, the other made its first appearance in the molar region of the inferior maxillary bone.

In each case the tooth had been extracted for the relief of pain. Some months afterwards when the patients came under my observation, infiltration of the neighboring soft parts had occurred to such an extent that a successful result could not be expected to follow even a most radical operation. On the urgent solicitation, however, of the patient suffering with a sarcoma of the upper jaw, I agreed to operate with the understanding that in all probability the affection would return. At the time of the operation, I removed half of the upper jaw together with a large quantity of sarcomatous tissue from the surrounding parts. Growth returned after several months, the patient dying a few months afterwards from exhaustion. I refused to operate in the other case, as the floor of the mouth, the gum and the cheek were extensively involved. I, however, used injections of Colley's serum (the streptococcus erysipelatio prodigiosus), so highly recommended in inoperable cases of sarcoma, with the result, however, of adding to the sufferings of the patient, who succumbed to his affection six months after I first saw him.

Much more frequent than neoplasms and inflammatory affections, that have their origin from dental irritation, are those instances that are purely reflex in their character, and that are excited through irritation of the dental branches of the fifth cranial nerve. Most of these cases can only be diagnosed by applying the gen-

eral principles of medicine to their elucidation; the constitutional peculiarities or taints of the individual must be considered. A rheumatic, gouty or specific habit must be recognized before rational treatment in any given case can be decided upon.

For the reasons given in these brief remarks, it must be apparent that the dental surgeon of to-day must have a knowledge of the principles of medicine and by virtue of his professional attainments he becomes a member of that great brotherhood, the medical profession, whose mission it is to relieve human sufferings.

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DISCUSSION.

DR. A. E. BALDWIN, Chicago—There is little to be said on this subject more than the essayist has said. I welcome any paper showing the need of greater breadth in our specialty, and I have been an earnest advocate of the medical education of the dental student. I first studied medicine and practiced for a number of years, afterward taking up the specialty of dentistry. I think men are better qualified for the practice of dentistry by such a course of study and preparation than they would be without it. This Section has done much to bring dentistry into its proper position and has also exerted an exceedingly great influence for good upon the general dental practitioners.

DR. M. L. RHEIN, New York City—We all recognize the appropriateness of that which the essayist has presented to us. The need of educating the dentists of the future in the groundwork such as we recognize they should have is an important matter which should occupy our thought. This groundwork should be as thorough as for any department in the broad field of medicine. It is as difficult to differentiate between the normal and pathologic conditions of the mouth as between these conditions in any other part of the body.

DR. E. A. BOGUE, New York City—In the matter of reflex inflammations and of dental difficulties being at the base of ocular and aural troubles, it so happened in the cases referred to by Dr. Knight that there had been serious neglect. Here we as dental specialists can render valuable aid. While agreeing to all that has been said regarding curative methods, I feel that there are generally prophylactic methods to be adopted —methods of cleanliness.

DR. G. F. EAMES, Boston—I am grateful for the paper that has been read. It perhaps does not call so much for discussion as for words of approval making emphatic the one grand principle we are all working for. It seems to me that such papers should be read before other Sections of this Association.

DR. KNIGHT, in closing—I do not know that I have anything further to state. The object of the paper was to turn the attention of the medical and dental professions to the fact that there should be more coöperation between the two. Many practitioners are largely astray in their knowledge of dental affections. They need to be better informed as to when they shall direct a patient to a dentist. If we can get the oculist to more generally appreciate the connection of eye affections with the fifth cranial nerve, and if the dental student has impressed on him the necessity for a practical knowledge of anatomy and physiology, much advance will be made in the ability to give relief to suffering. There is a tendency for specialism to become narrow. Adenoids have been taken out indiscriminately and defective hearing has sometimes resulted from the operation. In some cases operation is permissible, but in the majority of cases general treatment is sufficient to cure the condition. Cicatricial tissue and secondary contraction take place after operation, and these may cause more inconvenience than the primary condition. I think the laryngologist should consult more with the general practitioner and the oculist with the dental surgeon. I believe the time is coming when general recognition will be shown to the dental surgeon.

Combat Mosquitoes at Suez.—The cable reports that the Suez Canal Company will organize under Major Ross a systematic campaign against the malaria which is playing havoc with the health of its employes.

SODIUM GLYCOCHOLATE IN DISEASES OF THE LIVER.

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The problem in therapeutics has been to discover some drug which would have an alterative effect upon the liver by increasing the excretion of its waste products of metabolism and arrested toxins by the bile, preventing the precipitation of cholesterin and pigments in the gall-bladder, thereby preventing the formation of gallstones.

ORGANOTHERAPY.

In recent years organo-therapy has received a great amount of attention owing to the splendid results obtained by the administration of thyroid extract in myxedema and cretinism, and it is strange that more attention has not been paid to the bile acids which are undoubtedly one of the active principles of the liver, apparently utilized for the purpose of dissolving and holding in solution the excretory products of the liver and procuring their elimination by means of the bile into the intestine.

Huppert, Rosenberg, Pfaff and Balch, Schaeffer and many other experimenters have proved conclusively that none of the so-called cholagogues of the materia medica increases the quantity of bile eliminated, a few of them, notably sodium salicylate, increase the water, but the solids of the bile excreted are reduced; there is a remarkable unanimity in their results and in their dictum that the bile acids are the only subtances which will increase both the quantity and the solid substances of the bile eliminated.

The place and chemistry of the formation of the bile salts in the body has not yet been settled. Dr. Crofton of Philadelphia, in some most interesting experiments, has produced both bilirubin and bile acids by the action of trypsin on hemoglobin in the presence of glycogen or glucose, and he has further shown that they, the bile acids, exist normally in the blood in very small quantities, a point which has, up to the present, been denied. Should Dr. Crofton's work be confirmed, one of the problems of physiology will have been solved which has, up to the present, been in dispute.

ACTION OF THE BILE SALTS.

The physiologic action of the bile salts can be summed up as follows:

1. Injected even in small doses into the blood stream they produce a widespread disintegration of red blood corpuscles with a liberation of hemoglobin; brought into contact with the cells of the body they cause their disintegration.

2. They have a cholagogue action, in fact, are the only substances known to possess the power and actually cause an increased flow of bile, both solid and liquid constituents being increased.

3. The presence of bile in the blood acts as a stimulus to the liver cells.

4. In small doses they aid coagulation.

5. In large doses they arrest coagulation.

6. In very small doses they act as vaso-dilators.

7. In large doses they act as vaso-constrictors.

8. They reduce motor and sensory irritability.

9. They slow the heart beat by direct action on the heart muscles and the cardiac ganglia.

10. They act on the higher cerebral centers, causing coma, stupor and death.

Under these physiologic conditions, numbers 1, 2, 3, 4 and 6 may be considered as normal actions, while 5, 7,

8, 9 and 10 are pathologic and due to excess in the blood.

From Crofton's experiments the conclusion may be drawn that the bile acids are formed in the blood or liver by the action of a trypsin-like ferment, possibly derived from the leucocytes or hemoglobin in the presence of glycogen or glucose, that there is a small quantity circulating in the blood which has the above-mentioned physiologic actions as well as of holding the cholesterin and free pigment in the blood in solution, that they are arrested by the liver and excreted with the bile, carrying with them the waste products of metabolism which they hold in solution and are in great part reabsorbed from the intestine to be again utilized by the liver. This suggests that the quantity of bile acids formed in the system is, under normal conditions, small, being only sufficient to supply the loss from the intestine. Purgatives or diarrhea will probably reduce the amount of bile acids in the body, a greater quantity being eliminated with the feces owing to the decreased time for absorption in the intestine.

The bile acids also play an important part in the digestion and absorption of fats by splitting off a part of the neutral fats and by aiding the emulsification of the remainder. Dr. Joslin has shown that in a case of biliary fistula the absorption of fat was increased 50 per cent. by the administration of bile acids. The bile has little or no antiseptic action, and the increased putrefaction in acholic stools is due to excess of fats which, surrounding the proteid particles, prevents their digestion and absorption, increasing the amount of stool as well as the growth of putrefactive bacteria.

NECESSITY OF THE BILE SALTS.

From the foregoing, the importance of a sufficient secretion of bile acids to the well-being of the organism is apparent, and any continued reduction in their amount must act prejudicially to the organism. In jaundice, where the bile, owing to obstruction of the duct, finds its way into the blood stream through the lymphatics, the toxic effect can be observed, producing the symptoms stated in the paragraphs above numbered 5, 7, 8, 9 and 10. There is another condition which may be described as icteroid commonly observed in patients suffering from alcoholism with cirrhosis, the morphin habit, chronic malaria and many other affections in which the liver is involved where the skin obtains a dirty brownish-yellow color, the sclerotic being more or less tinged with a lighter yellow with patches of dark brown on various parts of the body known as "liver spots," differing in shade and location from the bronzing of Addison's disease. This discoloration has been analyzed and proved to be bilirubin, viz., bile pigment, which has been precipitated from the blood into the skin from want of sufficient solvent. No symptom is probably more diagnostic of torpid liver and deficiency of bile acids than this discoloration of the skin; clinical evidence that this is the cause of the symptom is that the skin will become of normal hue and the liver spots gradually disappear after the administration of glycocholate of soda for a month or two, while the apathetic, listless, tired feeling of which the patient complains gives place to normal cheerfulness and activity. The older physicians recognized the connection of the biliary secretion with depression by giving the name of melancholia to that form of insanity in which depression is the principal mental symptom.

Gallstones and the resultant hepatic colic is a very obstinate form of disease, some patients passing their lives either in the agony of an attack or in the expectation of the next. As has been stated, the bile acids are the natural solvents of cholesterin and pigment and it is due to an insufficiency of this solvent that these substances are precipitated on to any nucleus of foreign matter which may find its way into the gall-bladder.

CASES ILLUSTRATING ACTION.

Dr. H. Burton Stevenson, Sherwood, Md., has kindly given me the results of glycocholate of soda in three cases of recurrent hepatic colic in his private practice.

CASE 1.—A woman, aged 54, complained of recurring attacks of pain radiating over the abdomen and to the shoulder, with nausea and vomiting, a diagnosis of gallstones was confirmed by finding the stones in the feces. The attacks occurred with considerable regularity about every four weeks and during one year he saw her in no less than ten attacks. The usual treatment of phosphate of soda, etc., was tried with no effect, and though strongly advised, she refused operation. In April, 1900, he gave her grs. v of the glycocholate of soda *ter-in-die* for twenty-one days, twice daily for another twenty-one days, and once daily for another twenty-one days. Since discontinuing the medicine in June, 1900, she has been absolutely free from attacks; her attacks dated back four years from the first time he saw her. In this case Dr. Stevenson is of the opinion that the administration of the glycocholate of soda not only prevented the formation of any more gallstones but dissolved those which he believed remained in the bladder after the last attack.

Cases 2 and 3 are similar and results equally as good.

That glycocholate of soda will prevent the formation of gallstones is very probable and it is natural to suppose that a continued excess of bile acids in the bile will act upon the stones in the bladder and gradually dissolve them. I have dissolved both cholesterin and coloring-matter stones in the laboratory in three or four days with a 1-per-cent. solution of glycocholate of soda at body temperature. The cholesterin stones soon become friable so that they can be crushed to powder with the finger, while the coloring matter concretions dissolve with ease.

Gallstones are much more common than are generally supposed, autopsies showing about 10 per cent. in women and 5 per cent. in men.

THERAPEUTIC APPLICATION.

Dr. Richardson informs me that the glycocholate of soda has been used extensively in Mt. Hope Retreat, where they were led to suspect a torpid condition of the liver; especially so in cases of alcoholism, morphin habit, neurasthenia and melancholia has it been very successful, acting as a purge for the liver with a result such as could not be obtained by any other drug, using regularly five grains three times a day and occasionally going as high as fifteen grains in cases of obstinate constipation, producing a slight diarrhea for a day or two, after which the bowels were more regular.

I have used the glycocholate of soda in St. Agnes' Hospital in two cases of pulmonary tuberculosis, using gr. iii t.i.d. for the better emulsification and absorption of fats in the forced diet of such cases, one gaining 10½ pounds and the other 9 pounds in 3 weeks. It is of use in all cases where the rapid absorption of fat is desirable—convalescents from typhoid fever, cases of diabetes mellitus, etc.

I have used it in three cases of morphia habit, not as a cure for the habit, but rather in the nature of a cosmetic, as it certainly improves the color of the skin, removes that muddy appearance so usual in those cases. The results were quite satisfactory. The bile is rendered more fluid and is more freely eliminated from the liver than it was when the patient was in the habit of using morphia, which, as is well known, lessens all secre-

tions. In a case of neurasthenia whose complexion was of the same pasty, dirty color, excellent results were obtained by using glycocholate of soda alone without any other treatment.

CONCLUSION.

The indiscriminate use of glycocholate of soda is to be avoided; it is not suited to all cases, and although there are no contra-indications for its use yet good results are only to be expected in those cases of gallstone formation of so-called torpid liver as found in certain diseases, such as alcoholism, drug habits, melancholia and its congeners, constipation, chronic malaria, etc.; it also materially aids the digestion of fats and may prove a useful adjunct in wasting diseases of all kinds.

THE PRESENT STATE OF OUR KNOWLEDGE CONCERNING SO-CALLED PARTIAL OR GRADUATED TENOTOMIES AND THE HETEROPHORIAS.*

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CHICAGO.

For nearly thirty years partial or graduated tenotomy for the correction of heterophoria has been on trial. It at once received the attention of numerous advocates and opponents. The reports presented by Stevens and later by Ranney and others were confirmed or disapproved according to the experience of individual observers. There seem to be still a few who doubt the possibility of obtaining a result from a partial tenotomy, and others who doubt the efficacy of any operative interference in correcting heterophoria. The value of the operation can only be judged by a careful study of a large number of cases extending over a long period of time, recorded by many observers.

LEGITIMATE PARTIAL TENOTOMY.

It is not my purpose to discuss in this paper the pros and cons of the questions involved in the study of the relation of certain forms of imbalance of the ocular muscles and eye strain to so-called functional nervous diseases. I shall only take up the question of the status of partial tenotomy as a legitimate procedure when employed for the correction of heterophoria.

By partial tenotomy we mean cutting through the central mass of the tendon and extending the incision into the aponeurotic fibers as far as is necessary in order to secure the desired amount of displacement. A graduated tenotomy may be partial or guarded. A guarded tenotomy is one in which the tendon is severed, but retained or limited in effect by a stitch.

There are three important requisites in making a study of heterophoria and its correction: First, a thorough knowledge of the mechanism of the motor apparatus of the eye; second, a full appreciation of the technical difficulties to be overcome by the operative procedure; third, a hand skilled in operative experience. The same is true of the treatment by prism exercises and ocular gymnastics.

If we take for our guide in anatomy the descriptions of the tendons given by Fuchs, Gray and others, there would be no such thing as obtaining an effect from a so-called partial tenotomy. They do not describe or give sufficient importance to the fan-like expansion of the muscle, which plays so important a part in the operation of partial tenotomy. The best early description of the tendon and the aponeurotic expansion, I found in the article by Liebrecht, published in 1871. In his paper he recognizes and insists upon the importance of the lateral fibers which go off from the tendon and are attached to the ocular wall both above and below, also the direct fibers of the tendon which unite with the adjacent aponeurotic expansion of the muscle on either side, thus forming what is known as the annular ligament. Some of the later works on the subject give the tendon as described by Liebrecht, dwelling on the importance of the annular ligament as modifying the action of the muscles out of the vertical and horizontal planes.

Shall we operate for the relief of the symptoms caused by heterophoria? Two classes take extreme views. Happily these classes are composed of but a small number of those doing special work. The motto of one class of extremists is in all cases to operate, of the other never to operate.

THE AUTHOR'S CREED.

My creed may be stated in the following general way. Render your patient the service which in your experience is for his best interest.

Given, a case of asthenopia. Refract and allow sufficient time for a properly-adjusted correction to modify the muscle condition and relations of fixation. If the manifest heterophoria is not relieved and a latent error is still to be found, I at once begin a system of ocular gymnastics with prism, stereoscope and voluntary and prearranged manual of movements. Usually four office sittings and as many more home exercises interposed, will enable me to determine the range of flexibility of the ocular muscles under voluntary control. The power of abduction, adduction, sursumduction and torsion is now estimated. These data, together with the first readings, will usually enable me to state to the patient two propositions:

First: Will you place yourself under my care for from three to six months and submit to the course of ocular gymnastics and general tonic treatment, and do but a limited amount of close work; with the possible result of an improved if not corrected muscle balance, with a reasonable hope, if your general health remains good and the eyes are not overtaxed, that there will be no relapse; or, if there is a relapse, by again undergoing treatment, the balance may be again temporarily established. Or, second, will you prefer to put yourself under my care for from two to six weeks and undergo the development of the total error and have it corrected by operations and an orthophoric condition established, and thus do away with the error and, we hope, enable you in the shortest possible time to determine whether you can pursue your chosen vocation?

QUOTATIONS FROM AUTHORITIES.

David Webster said in closing an analysis of 40 cases in which he had operated by graduated tenotomy for heterophoria:

1. No person should have a tenotomy performed solely because he is the subject of heterophoria.

2. Very slight degrees should be corrected where troublesome symptoms exist which may be due to the too great use of nervous force on co-ordinating the eyes.

3. Other means should be resorted to before trying tenotomy, but unnecessary delay should be avoided.

4. Tenotomies should be performed under cocain.

5. In judiciously selected cases, when the operation is properly performed, the average results will be quite as satisfactory as the results of most other surgical operations.

It is a mistake to deny that any good can come of a graduated tenotomy.

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* Read before the Western Ophthalmo-Oto-Laryngological Society, April 11, 1902.

It is always a mistake to claim that all of the ills that flesh is heir to are to be cured by cutting the muscles of the eye.

Hansell concludes from his experience "that tenotomy and not prisms is the treatment and that the tendon should be completely divided."

Gould gives still another point of view: "I can imagine nothing more 'bete,' more unsurgical or more unmedical than cutting the tendon of an overstrong muscle of the eye when the weak antagonist, by physiologic methods, may in a week, a fortnight or a month, have its strength increased five or six fold."

The foregoing conclusions are fair samples of the literature—and it is voluminous—from which we have had to glean our material, to place before you the status of operative interference for the correction of heterophoria. Stevens, Ranney and others—to judge by their writings—seem to be of the belief that heterophoria can only be corrected by a radical operation. The late Dr. Noyes and Drs. Hotz, Savage, Webster, Standish and many others are evidently of the opinion that a true heterophoria, while it may be made tolerable and under conditions of improved general health rendered latent, may become again manifest and annoying under sufficient provocation, either from continued use of the eyes or from impaired general health.

Apparent heterophoria may be due to errors of refraction or position and habits of work to correct these and by training and ocular gymnastics these errors may be corrected and the apparent unbalance disappear. In true heterophoria, while the error may be suppressed or latent, the strain resulting may be great but not as annoying as in manifest of error. A few cases may illustrate:

REPRESENTATIVE CASES.

CASE 1.—Mrs. X. came to me in 1893, suffering from headache, indigestion, insomnia and vertigo. She had been under careful general treatment. Her eyes were refracted under atropin and totally corrected, O.S. and O.D. + 1 + 1.25 cyl. ax. 90. After the cycloplegia had passed off, vision = 20/20. After some months she returned and I reviewed her eyes, as the asthenopia and headache had not been relieved, though she was dependent upon her glasses.

At the time of her first visit I made out a hyperphoria of 1 degree and decentered her glasses to correct it. Later she gave a right hyperphoria equal to 5 degrees, esophoria equal to 10 degrees. She remained under treatment for two weeks and the prism drill was thoroughly carried out, resulting in apparently normal R. and L. sursumduction and abduction = 40°, adduction = 4°. She returned to her home in a western town and for a time experienced some relief. Within six months she suffered a relapse, and, while she could not use her eyes with comfort with her glasses, she was helpless without them. She returned to me in 1901 much broken in health, manifesting 10° of right hyperphoria. This was corrected by operation with complete relief from all of her chronic symptoms. During the past two years she has recovered good health and is now entirely free from asthenopia. She has to regret the partial loss of nearly ten years of comfortable life and the lasting results of wear and tear upon her nervous system; and I have to regret the lack of courage of my convictions.

CASE 2.—Mr. B., aged 20, a student, consulted me in January, 1890. Examination revealed under atropin hypermetropia + .50, each eye. All of his symptoms pointed to eye-strain as the cause of almost constant headache, asthenopia and occasional migraine. A study of the muscle condition gave right hyperphoria 4°, but after manifest rest, prisms and gymnastics for two days, 8° with no lateral error. As he had been out of school three months and had worn a + .25 connection most of that time, I advised an operation as soon as the full amount of error could be determined.

The patient concluded, however, to delay the operation, and at my suggestion sought other advice. Ten months later he reported again, that he had been under the treatment of a colleague, had worn prisms, done exercises, worked on a farm, had improved, attempted to study and had been at once prostrated by a series of severe attacks of migraine and had now returned for an operation, if I still considered it advisable.

A right hyperphoria of 7 degrees was corrected by two operations. After seven months of continuous school work he reports complete freedom from troublesome symptoms, though he has been doing double work during the past semester. I consider that this patient lost nearly a year by delaying the operation.

CASE 3.—A patient with an exophoria of 10 degrees, who reported to me lately, complains that he is able to do only half a day's work, though he has been under treatment for three years. He is unable, or thinks he is unable, to take a protracted vacation and change of environment. Rest prisms are of use to him in close work. He is 34 years of age and is emmetropic, but requires + 1.d. for close work; adduction 30 degrees, abduction 91 degrees. Adducting prism exercises cause pain and continued fatigue. The use of strychnia 1/30 t.i.d. for four days will bring his adduction up to 45 degrees and allow him to dispense with his reading glasses, but he soon becomes nervous, irritable and sleepless with high pulse tension. This is a case of functional esophoria and not operable.

THE CAUSE OF MANY FAILURES.

In looking over the literature on the subject, and in recalling the teaching which we received and the lack of importance attributed to the auxiliary structures, I do not wonder that a large majority of the operators who have not had the patience to go into the anatomy of the dynamic structures of the eye have met with failures in securing the results desired.

I have frequently been struck with the lack of accurate knowledge of these structures which is exhibited, and could not but wonder whether this lack of knowledge might not have entered into the question of their operations and modified their results. Some of the most strenuous opponents of graduated tenotomy admit that in certain cases the only relief for heterophoria lies in an operation, and they resort to the uncertainty of a complete tenotomy. They know that in this manner they can correct the error, but it seems to me they are in danger of establishing another and greater error in the opposite direction.

Prism exercises are of curative value only in cases of functional heterophoria. With them, you can teach the muscles the trick of voluntary control.

In many cases of heterophoria from structural causes, the prism drill will enable the patient to control the imbalance during favorable conditions, but as soon as they are innervated the voluntary control is relaxed and asthenopia or reflex symptoms result. In any case, all that we can hope to do is to correct the heterophoria and then, if the reflex conditions are due to it, expect a gradual improvement.

RESULTS OF OPERATIONS.

The method of operation will be determined by the location and the degree of the error.

The amount of correction obtained from a given operation will vary according to the carefulness of the operator, both as to surgical deftness and asepsis.

The breadth of the annular ligament and the character of its fibers will determine the extent of the operation and the amount of displacement secured.

In my experience in exophoria I have been able to secure as high as 10 degrees by a single operation; on account of the narrowness of the expansion of the tendon, I have, in another case, been limited to 4 degrees; in esophoria, as high as 15 degrees and as low as 3; in hyper- or hypo-phoria, as high as 7 and as low as 1.

I will refer you to the interesting work of Savage and the later writings of Stevens for data or opinions relative to the correction of cyclophoria by a partial tenotomy. My cases are too few and recent for me to express even a tentafive opinion.

THE CHOICE OF AN OPERATION.

The question to-day does not seem to be whether an operation in certain cases is good practice, but what form of operation shall be employed, the partial or the guarded tenotomy or an advancement. For my part, I prefer a partial tenotomy and an advancement if the error is of too high a degree to be corrected by a partial tenotomy alone, for in this way you conserve the guy strings of the tendon.

A class of cases claim our attention in which the experience of the surgeon who has dealt with a large number of cases of heterophoria is of great value. This class is composed of cases of asthenopia or supposed ocular reflex neuroses in which there are errors of refraction and hyperphoria, in which the errors of direction are marked and constant. Shall we say to these patients, we will correct the anomalies of refraction and then after some months correct the muscle errors if your trouble does not disappear, or shall we at once proceed to the correction of both forms of error and thus save much valuable time; for to certain patients it may mean the discontinuance of a course of study, or a protracted interruption, the loss of a position or a repetition of an expensive journey with its uncertainties. There is also the consciousness, on the part of the adviser, that it is only a question of time when the error must be corrected and that the delay was not only unnecessary but a concession, not to conservatism, but to the opponents of a legitimate procedure.

The opponents of the operation offer no valid reason why the operation should not be performed and those who allege that the operation can not be done as a legitimate partial tenotomy so as to secure a result, are so small in number and so evidently voicing preconceived opinions of others who have never undertaken the study of the technical difficulties of the operation, that their opinions are of but little value.

On the other hand, any radical procedure of the nature of an operation involving the disturbance of such nice adjustment as binocular fixation, should not be lightly considered, nor should the enthusiasm of success in a limited experience lead those who favor the operation to advocate it as the "cure all."

CONCLUSIONS.

It is true that the operation for a few years following the publication of the first reports of cases by Stevens, Ranney, Standish and many others, was employed for the cure or relief of all sorts of conditions, of necessity there was a reaction, but through the careful and legitimate employment of the procedure in properly selected cases. it has taken its place as second only to refraction in relieving certain forms of eye strain, and is practiced by conservative ophthalmologists.

In whichever class we may find ourselves after a careful investigation of the subject, we must give due credit to the personal equation and the perfection of detail and technical accomplishment of our opponents. In either case we must give credit to the honesty, experience and observation of our colleagues, for in given cases each class may be correct.

The most that any one of us can say is that, in my hands and from my experience, the methods which I follow give the best results.

Clinical Report.

ANEURISM OF THE INNOMINATE ARTERY.

REPORT OF CASE SUCCESSFULLY OPERATED ON.*

LOUIS J. HIRSCHMAN, M.D.
DETROIT, MICH.

The patient, F. W. F., is a railway switchman by occupation and is 45 years of age. About March 5, 1901, he noticed a soreness over the right side of his chest and his right shoulder. This soreness gradually grew worse and extended to and involved the right arm. He consulted a physician at that time, who made a diagnosis (?) of "rheumatism" and treated him until Aug. 28, 1901.

His condition steadily growing worse, he decided to change physicians,, and he called in Dr. Hiram A. Wright on Aug. 29, 1901. Dr. Wright made a careful examination of the seat of the trouble and made a diagnosis of aneurism of the innominate artery. He asked me to see the case with him the following day. I did so and, on examination, found what the doctor had correctly diagnosed. There was a marked bulging of the right half of the sternum and of the first three ribs on the right side and there also was a pronounced pulsating bulging at the origin of the right sterno-mastoid muscle. The integument over the tumor and the adjacent area presented a markedly cyanosed appearance. The patient at this time was in severe pain a large part of the time; suffered from dyspnea; could not sleep; had no appetite; was coughing a large part of the time, and was able to walk only with difficulty. His heart's action was very weak, rapid and intermittent. Auscultation revealed a pronounced aneurismal bruit or thrill. This was discernible, not only over the pulsating tumor, but also over the course of the right common carotid artery.

The extreme gravity of the situation was explained to the patient, and the small chance of a successful termination, even if operation was attempted. He replied that, as certain death in a very few days stared him in the face without the operation, he was willing to take any chance to gain a longer lease of life.

He entered St. Mary's Hospital, in this city, on September 3, and I operated the following morning. Chloroform anesthesia was employed during the whole operation. An incision five inches long extending parallel with the clavicle, outward from the sterno-clavicular junction, was made, and the upper part of the aneurism, the root of the common carotid artery, exposed. The aneurism was found to be the size of an egg, only more rounded. I decided to ligate both the common carotid and the sub-clavian arteries, in the hope that the sac would fill with clotted blood which would later become organized, and the life of the patient thereby prolonged. The carotid was tied a half inch above the sac, while the subclavian was ligated at its outer third with strong dry-sterilized catgut. The wound was closed with a buried continuous catgut suture and the skin was approximated with sterilized adhesive plaster strips.

The patient reacted well; there was no disturbance of cerebral circulation, and there was no swelling of the right arm. He made a perfect convalescence and was allowed to sit up at the end of the third week. At the end of four months he was in better health than for several years, and to-day walks to and from his office (a distance of four and one-half miles). There was some atrophy of the right arm, but at the fourth month the radial pulse again became established and the arm is to-day as large as ever. At present he is engaged in office work, it being deemed unsafe for him to do any such exhausting labor as was the case in his previous occupation, railroading.

Of the thirty-six cases of innominate aneurism operated on by the simultaneous ligation of both sub-clavian and common carotid arteries, which I have found reported in this country, nine complete recoveries are noted.

In the case personally reported it might be of interest to note that a fluoroscopic examination of the patient five months after operation revealed a solid mass, almost opaque to the rays, somewhat smaller than an egg, and occupying a position corresponding to that which was formerly occupied by the aneurism. Dulness can be elicited over this area upon percussion, while inspection fails to reveal any bulging, or in fact, anything abnormal, except an almost imperceptible scar.

420 Woodward Avenue.

* Patient exhibited and case reported before Detroit Medical Society, May 21, 1902.

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PROCESSES OF HEALING IN CARCINOMA.

One of the most interesting and important histologic studies of carcinoma of recent date is the one by Walther Petersen[1] concerning processes of healing in carcinomas. Petersen was greatly impressed with the frequency that giant cells occur in carcinomas of the skin, and this led to a closer study of their significance. In 300 carcinomas of the skin examined cursorily giant cells occurred in 30, but in 120 carcinomas examined in serial sections 29 were found to contain giant cells, frequently in large numbers and often grouped in an interesting and suggestive manner about alveoli that had undergone more or less complete cornification. But many giant cells also occurred isolated. From the standpoint of histogenesis Petersen divides the giant cells of carcinoma into those of epithelial, connective tissue and muscle origin. The first two are the most frequent, the third occurring where muscular tissue is undergoing disintegration from the encroachment of tumors. We are so accustomed to regard the presence of multinuclear giant cells as equivalent to tuberculosis that the question at once arises as to the possible tuberculous nature of these giant cells, and Petersen discusses that phase of the subject on the basis of the more important literature and of his own studies. He reaches the general conclusions that cutaneous lupus not rarely is followed by carcinoma; that the combination of cutaneous carcinoma with microscopic tuberculosis certainly is extremely rare; furthermore, that in cutaneous cancer giant cells may occur in such form, number and arrangement as to awaken the just suspicion of tuberculosis. But the absence of tubercle bacilli and caseation, the negative outcome of the tuberculin test and of animal experiments serve to exclude tuberculosis, at least in Petersen's cases. Here, as elsewhere, the diagnosis of tuberculosis on purely histologic grounds has led undoubtedly to erroneous interpretations.[1] Baumgarten's unshakable faith in the Langhans giant cell as a sure criterion of tuberculosis, and tuberculosis only in spite of the negative outcome of other tests for tuberculosis, shows to what an extreme the diagnostic importance of the giant cell has been carried. At the same time, as it is urged that giant cells in carcinoma do not of necessity mean a combination of carcinoma and tuberculosis, it is well to remember that undoubted combinations of these two processes, both in the skin and elsewhere, do occur, and this is emphasized especially by Moak's[2] recent report of five such cases in which the diagnosis of tuberculosis was clinched by demonstration of tubercle bacilli in the lesions.

Of what significance, if any, are giant cells in carcinoma free from tuberculosis and other granulomatous infections, as, for instance, oidiomycosis? Petersen, following Becher, regards the springing up of giant cells in uncomplicated carcinomas as the result of processes that tend to healing. Giant cells accumulating about cancer pearls and nests are undoubtedly phagocytic and after absorption the cancerous area may be replaced fully by connective tissue. This is borne out by histologic appearances. Petersen does not interpret the appearance of giant cells as indicating a direct struggle between phagocytes and carcinomatous cells, but rather as efforts at removal of cells that have been previously subjected to the influence of toxic substances—cytolysins—in the serum, and of materials such as the horny that play the rôle of foreign bodies. Indeed, it is about accumulations of horny material that giant cells are seen to be most numerous in carcinoma. Petersen cites good examples of the removal by phagocytosis of the earliest metastatic foci of carcinoma in which regressive changes were pronounced. Many interesting theoretic speculations could be introduced in connection with various phases of these observations; as, for instance, into the reasons for the often peculiar and so far unexplainable distribution of metastases by way of the blood. Is the presence of certain substances produced by degeneration of carcinoma cells necessary before metastatic growths can take hold and develop? But the importance and difficulty of the problems urge rather to continued study and accumulation of well-established facts than to the weaving of hypotheses without definite basis. The lesson to be drawn from Petersen's study and remarks seems to be this, that while the human organism in the majority of cases falls victim to the invasion of carcinoma once started, yet it is not altogether without the calling into operation of opposing forces that this sad result is achieved; there is reason to believe that specific cytolysins may develop that destroy cancer cells and that in rare cases carcinocytolysis—to coin a new word—associated with phagocytosis may lead to healing of carcinoma. In such processes giant cells are frequently numerous. And more important still is the suggestion that if we grant the reliability of these observations and deductions, then we have here a good basis for the starting point of an effective experimental therapy of carcinoma.

1. Beitr. zur kl. Chir., 1902, xxxiv, 682-702.

TUBERCULIN.

Within a few months after Koch introduced tuberculin to the world in 1900, the treatment of tuberculosis by means of this new remedy came into general disrepute, largely because it was used in unsuitable cases and in an improper manner. Koch had limited the proper use of tuberculin in pulmonary tuberculosis to the early

2. Jour. Med. Research, 1902, viii, 128-148.

stages of the disease. The remedy, however, was employed in advanced cases and in too large doses; it was administered to patients with elevated temperature, and the dose was often increased instead of reduced when fever followed the injection.

We made editorial comment[1] on the remarkably satisfactory results obtained by Goetsch in the treatment of tuberculosis with tuberculin. Goetsch's article was fully abstracted in the following number.[2] In a discussion on the therapeutic value of tuberculin in human tuberculosis at the British Congress on Tuberculosis[3] in London in July, 1901, the consensus of opinion as expressed by observers from various parts of Europe and America was favorable. Some were enthusiastic in their praise of tuberculin and only a few spoke against its use. Wilkinson[4] has just reported most favorable results from its use. To obtain good effects from the administration of tuberculin, it has been learned that it must be used in selected cases and with much care. It is especially valuable in early cases, and it is usually said to be contraindicated and even harmful if there is mixed or secondary infection. This is strongly insisted on by Wilkinson. It must be given in sufficiently small doses so that no fever is excited, and the patient must be afebrile and in bed when treated. With a better understanding of the way in which it is to be used, and of the cases which are suitable for its employment, tuberculin now seems about to enter on a period of usefulness as a curative agent.

Until now tuberculin has been most largely employed as a diagnostic aid, and as such has proved of immense value. Some studies by Preisich and Heim[5] serve to further elucidate the way in which the reaction is produced and some practical value attaches to their observations. They found that a reaction with tuberculin occurs in animals in the peritoneal cavities of which collodion sacs, containing tubercle bacilli or tuberculous tissues, have remained a few days, although no tuberculosis is present. Hence the reaction is not necessarily dependent on tuberculous changes in the tissues, and the local reaction about the tuberculous focus is not the cause of the elevation of temperature. Elevation of temperature, following the injection of tuberculin, has been observed in other diseases beside those due to the activities of the tubercle bacillus, as in actinomycosis, syphilis, calculous pyelonephritis and leprosy. Otis[6] tested 36 cases of syphilis and obtained a reaction in 31 per cent. of them. On the other hand, the products of various bacteria, nuclein and normal blood-serum have been observed to give rise to an elevation of temperature when injected into tuberculous animals. The reaction sometimes fails to occur, even in tuberculous individuals (Otis, in 4 out of 8 cases).

Preisich and Heim conclude that tuberculin is a certain diagnostic means in tuberculosis, but that it has little value in differential diagnosis. In veterinary practice it is most valuable in determining whether an apparently healthy animal is tuberculous or not. In man it is of doubtful value in deciding whether tuberculosis or some other disease is present. In the individual to be tested the temperature must have been normal for some days, and all other diseases which have been shown to be capable of calling forth a reaction must be excluded. All active medicaments must be withheld for some days before making the test.

Bandelier[7] finds tuberculin useful in determining when cure is complete as well as an aid in the early diagnosis. It seems to be highly esteemed by those who are accustomed to its use as an aid in making a diagnosis early when secondary infections have not occurred. If it becomes known that cases of tuberculosis can be cured when treatment is begun early, it is likely that patients will apply early and not delay until it is too late, as has too often been the case in the past. The former unfortunate experience should teach us that, if we are to obtain satisfactory results, we must employ the remedy carefully and only in suitable cases.

TENDERNESS AND APPENDICITIS.

One of the most significant symptoms of inflammation of the appendix, as distinguished from other pathologic conditions that may develop in the right iliac fossa, is undoubtedly the tenderness over McBurney's point. Too often it is assumed by the practitioner that there must be spontaneous pain in the right iliac fossa whenever acute appendicitis develops. It is perfectly possible, however, for an active inflammation of the appendix to be dangerously progressive without the slightest pain in this region, or with only some passing discomfort on movement. Yet a touch over the point midway between the anterior superior spine and the umbilicus may reveal the existence of exquisite tenderness. This is the significant value of the diagnostic symptom discovered by the New York surgeon, and the real reason why McBurney's point has attracted the attention of the medical world.

This point of tenderness is practically invariably present when an appendiceal inflammation is active. Just what the reason for its exact localization may be is not very clear. For a time in the early history of appendicitis it was thought to be associated with the almost constant presence in this neighborhood of the tip of the inflamed appendix. On operation it was found, however, that the appendix might lie in many positions that would bring its tip into locations quite distant from this point yet the characteristic tenderness nevertheless be present. Other explanations have proved as futile. The tenderness is not immediately over the origin of the appendix from the cecum, though this has been suggested. Its

1. The Journal A. M. A., July 6, 1901.
2. The Journal A. M. A., July 13, 1901, 151.
3. Brit. Med. Jour., July 27, 1901, 189; The Journal A. M. A., Aug. 10, 1901, 384.
4. Brit. Med. Jour., June 7, 1902, 1389.
5. Centralbl. f. Bakt., etc., June 3, 1902, 712.
6. Med. News, Aug. 20, 1901.
7. Deut. Med. Woch., May 15, 1902, 357.

location corresponds rather with the inner edge of the cecum than its middle line whence the appendix comes off. The tenderness is not due to the localized inflammation at a stricture of the appendix, for the situation of such a lesion varies, not only on the appendix itself, but varies also with the differing positions of that organ. French surgeons, as Jalaguier and Quenu, have insisted that the tenderness at McBurney's point is really due to lymphatic adenitis at the ileo-cecal angle. This seems to be the only explanation that will satisfactorily account for the absolute fixity of the area of tenderness, notwithstanding the variability of the situation of the appendix and also of its pathologic condition.

Quenu[1] at a meeting of the French Society of Surgery pointed out that in gangrenous appendicitis the spread of the tenderness along the ileum toward the left iliac fossa is often a very valuable index of the gravity of the intra-abdominal situation. As this is the form of appendicitis which gives rise to most misgivings and oftenest deceives the surgeon into what proves unfortunate inaction, it is specially important that the diagnostic value of the suggestion should be carefully investigated. Quenu's rule is to operate whenever there is diffusion of tenderness toward the middle line, even though the general condition of the patient should not seem grave and there should be no change in other symptoms indicative of serious danger. He cites recent cases in which he feels sure that the consistent application of this rule has proved life-saving.

At the April meeting of the Harvard Medical Society of New York City Dr. John B. Walker[2] called attention to the significance of a certain evolution of symptoms in gangrenous appendicitis that is evidently dependent on the same conditions as those described by the French surgeon just quoted. Dr. Walker considers that the development of tenderness across the abdomen indicates a dangerous culmination in the inflammatory condition around the appendix. If at a first examination there is no tenderness in the left iliac region, while on subsequent examination palpation shows it to be present, immediate operation is indicated, even though the pulse and temperature should not be alarming and even have remained unchanged despite the evident progress of the affection. This symptom has, in his experience, been especially valuable in just those cases of insidious gangrenous appendicitis in which the surgeon is so often at a loss what to do and looks anxiously for some sign that will aid him in his determination. In some of his cases where surgical delay seemed perfectly justifiable on every other ground, operation performed on this indication alone disclosed the presence of an exquisitely gangrenous appendix just ready to rupture under circumstances that would surely have proved fatal, since no inflammatory reaction had as yet walled off the general peritoneal cavity. It would seem, then, that this more exact study of the character, localization and evolution of abdominal tenderness in appendicitis may prove of very valuable diagnostic significance in this most trying problem in present-day medicine.

1. La Semaine Medicale, May 17, 1902.
2. Medical News, May 24, 1902. International Clinics, series xii, vol. ii.

A HUMAN INCUBATOR.

A Kentucky farmer, Filson by name, lay sick with a fever, so high, the account goes,[1] that it notably heated the whole bed coverings. He was the breadwinner of the family, but his wife was a resourceful woman. Seeing her husband's energies going altogether to waste in uselessly raising the local temperature of his immediate surroundings, the thought occurred to her of a way of utilizing them to her and her family's profit. Borrowing some four dozen eggs she placed them in the bed, securing them from danger of breakage by some simple arrangement, and in due time hatched out in this novel incubator, 44 chickens, to the great delight of the father of the family and herself. Perhaps the emotional condition influenced the disordered heat centers, for it is said with the appearance of the newly-hatched brood the fever subsided, at least this is an allowable *post hoc* conjecture. Continued fever is not a pleasant matter, as a rule, but the woman of the above story, which is given as a veritable history, deserves credit for her ingenious utilization of adversity and the conclusion certainly is cheerful. Father and chickens are reported as crowing over their outcome.

1. Popular Mechanics, Aug. 2, 1902.

TYPHOID IN THE SOIL.

The occurrence of several cases of typhoid fever at the new Government post at Chickamauga raised some unpleasant suspicions. It was thought to be among the possibilities that the germs might still have existed in the soil as relics of the epidemic that raged through the camps during the Spanish-American war, and this naturally excited some apprehension. The duration of life of Eberth's bacillus in the soil had never been satisfactorily ascertained, but there are reasons to think that under favoring circumstances it may be long. That such conditions should exist in ordinary soil where the disinfectant organisms have full play and for a period of four years would be a rather unsatisfactory finding. It is with pleasure, therefore, that we notice among the special press dispatches one giving out the statement that the Government expert, Dr. Carroll, who was deputized to investigate the matter, has found no evidence of such permanent soil contamination. At the most it was only an unpleasant suggestion, never based on anything more than conjecture. The chances for typhoid infection are too numerous and generally ubiquitous to even require the suggestion; it was throughout merely a natural deduction from the history of the locality.

TYPHOID FEVER IN CHICAGO.

During the last month the number of cases of typhoid fever in Chicago has increased with alarming rapidity. The number of cases admitted to the various hospitals is very large; about two hundred cases are now being treated in the Cook County Hospital, according to the

newspaper reports. The unusual amount of rain during the spring and summer and the incompleteness of the intercepting sewer which is regarded as necessary in order that the drainage canal may exercise its full usefulness in preventing the contamination of the water supply with sewage emptied into the lake, are regarded as the most reasonable explanation for this rather unexpected epidemic of a preventable disease. The Health Department of Chicago for years has been printing in the public press daily reports of the analyses of the lake water from the various intakes. The quality of the water has varied greatly from day to day, being some times stated as good, at other times as usable, and then again as bad. It is a question whether the people in general in the community may not have obtained false confidence in the quality of the water on account of the nature of these reports. The water being good to-day and perhaps bad to-morrow, according to the reports, might, among the less intelligent, lead to considerable confusion as to the necessity of boiling the water. It would seem that in cases like this where the quality of the water may vary from day to day the only advice that should be given at all times would be to "boil the water." The fact that a water supply is of unreliable sanitary quality can not be too frequently and persistently reiterated and emphasized in a city that, like Chicago, is unfortunate enough to have its drinking water contaminated.

MASSAGE OF THE BREASTS DURING LACTATION.

The use of properly applied massage in the treatment of painful congestion of the breasts at the beginning of lactation is most valuable; but there appears to be much misunderstanding regarding the way in which it should be employed. Bacon[1] has pointed out the errors in the directions given in most text-books. It is usually said that the breast should be massaged by rubbing from the circumference toward the nipple, the evident purpose of such efforts being the removal of milk from the breast. Painful breasts at the beginning of lactation usually contain very little milk, and the pain and tension are not due to retained secretion, as is popularly supposed, but to a temporary overfilling of the blood and lymph vessels. The effect of massage should be to cause an emptying of the vessels and so to relieve the tension and resulting pain. Bacon, after considering the arrangement of the blood and lymph vessels of the breast, describes the proper technic to be followed to accomplish the desired results. The rubbing is begun in the axilla and under the clavicle, using but little pressure at first and gradually increasing it. The purpose of the massage is to facilitate the flow of fluids from the breast, and this is accomplished by accelerating the flow in the efferent vessels. The gland itself may or may not be massaged, but the manipulation should never cause pain: if it does, the pressure employed is too great or the breast is approached too rapidly. No effort is directed toward causing a flow of milk from the gland. Bacon warns against massage in infected breasts. The treatment should be reserved for cases of non-infected breasts in which relief can not be obtained by supporting bandages. The benefit sometimes derived from massage of the breasts by the old method is probably due in small part to the escape of milk, and is principally dependent on an emptying of the engorged vessels under the influence of pressure, much in the same way as it occurs when judicious pressure is applied by means of a bandage. When skilfully used, massage is a valuable procedure in relieving suffering from congested breasts at the time when the secretion of milk is being established, but if improperly applied it may aggravate the conditions which it is expected to alleviate.

1. Page 355 of this issue.

TREPHINING FOR CEREBRAL HEMORRHAGE.

Hemorrhage into the brain occurring as a result of rupture of a diseased blood vessel is not, as a rule, amenable to surgical treatment, although occasionally life may be prolonged or saved by prompt intervention. When, however, the extravasation of blood is due to traumatism, timely operation may be the means of averting a fatal issue, providing the source of hemorrhage can be localized and is determined to be in an accessible situation. Such a case has recently been reported by Dr. Lucius W. Hotchkiss,[1] and is worthy of notice by reason of its successful outcome. A man, 39 years old, fell backward down a narrow flight of stairs, a distance of nine feet, presumably striking the back of his head. He was unconscious for about eight hours, and at the end of this time appeared dazed and had great difficulty in talking. It was said there had been free bleeding from the right ear. When examined the patient could speak but a few disconnected words and in part write his name. The temperature was moderately elevated, the pulse slightly accelerated and the respirations practically normal. The urine contained a trace of albumin, but there was no other evidence of organic disease. The right occipital region was the seat of contusion and abrasion. On the following day the temperature was higher and paralysis of the right side of the face was noted. The aphasia became practically complete, although the patient appeared to apprehend perfectly. The decision was reached that the case was one of hemorrhage into the speech area and suited for operation. Accordingly a disc of bone was removed from the left parietal region, the dura incised and a clot found and evacuated. The dura was replaced but not sutured, and the remainder of the wound was closed in the usual manner, provision being made for temporary drainage. The patient improved slowly but steadily, although sufficient time had not elapsed to consider the result final. There is scarcely anything extraordinary in the foregoing record, which describes the course that would be pursued by any wide-awake surgeon, but it is none the less gratifying as an indication of the progress that has been made in one branch of medicine within recent years. There can be no doubt that as a result of prompt operation the patient was saved from serious disability, if not from a fatal result.

1. Annals of Surgery, July, 1902, p. 82.

Virchow's Health.—Virchow has not recovered his strength, and our foreign exchanges mention his extreme weakness. The cable now brings word that he met with a second accident recently, being thrown from a carriage. The worst results can be feared owing to his previous feebleness.

Medical News.

DISTRICT OF COLUMBIA.

Dismissed from Hospital Staff.—The executive board of the Emergency Hospital, Washington, is said to have formally dismissed Dr. Frank J. Doyle from the service of the institution for infraction of the rules.

Fined for Illegal Practice.—Robert I. Hunter of Washington was fined $50 and costs for practicing medicine without a license. In the specific offense charged the defendant prescribed for a child and gave it medicine, and the child died.

Resignation.—Dr. Richard K. Bragonier, interne at Emergency Hospital, Washington, has resigned to accept the appointment of resident physician of the Chesapeake and Ohio hospital at Huntington, W. Va., and Dr. J. Dunn has been appointed to fill the vacancy.

In Honor of Dr. Davis.—Lambda Chapter, Phi Sigma Kappa fraternity, in its new quarters in Washington, gave a dinner in honor of Dr. William Thornwall Davis, whose name a few days ago was sent to the United States Senate for confirmation as a lieutenant in the medical department of the United States Army.

Appointments.—Dr. Joseph S. Wall, Washington, as the result of a competitive examination has been appointed a member of the board of police and fire surgeons.——Dr. G. Lloyd Magruder, Washington, has been appointed to the vacancy of the Board of Visitors to the Government Hospital for the Insane caused by the death of the late Dr. William W. Johnston. ——Dr. E. George Walls, Washington, has accepted the position of surgeon to the American Line, and has been assigned to the *Kensington*.

ILLINOIS.

Appointment.—Dr. Henry Hertel Freeburg, has been appointed professor of hygiene and assistant to the chair of medicine in the medical department of Washington University, St. Louis.

After Many Years.—Dr. Edward L. Mayo, De Kalb, after thirty-three years of unremitting toil in the practice of medicine, has retired and proposes hereafter to devote himself to recreation.

Pioneer Physician Honored.—A banquet was given at Robinson, August 7, to Dr. S. D. Meserve, the pioneer physician and surgeon of that section, on his eighty-fourth birthday, by the members of the Crawford County Medical Society. Covers were laid for thirty guests. A handsome Morris chair was presented to Dr. Meserve at the close of the banquet.

Chicago.

Dr. Senn's Journeyings.—Dr. Senn has returned to London from the Orient and has attended the meeting of the British Medical Association at Manchester, before the surgical section of which he read a paper. He sails from Hamburg today and expects to be in Chicago before the end of the month.

Deaths of the Week.—Notwithstanding the typhoid fever epidemic, the 555 deaths reported during the week were only 10 more than during the previous week, and there were 54 or nearly 30 per cent. fewer deaths of infants. The death rate per 1000 was 15.92, which compares unfavorably with that of the previous week, 15.60, and with 13.87, the rate for the corresponding week of 1901.

Warning Against Typhoid.—The Department of Health issues an urgent warning against typhoid fever. Typhoid fever is more prevalent in Chicago to-day than it has been at any time since 1890 to 1892, during which period it caused 4495 deaths and gave the city a sinister preëminence among the nations of the earth. The department wishes to shock the public into some realization of the nature and the sole cause of the disease. Every existing case of typhoid fever is the result of having taken into the stomach the poison from the intestines of some previous case. The disease can be contracted in no other way. The commonest method of conveyance of the poison is by typhoid-polluted drinking water, but there is reason to fear that milk, vegetables and fruit are also polluted by the excessive rainfall over Chicago and adjacent territory which has flooded sinks and vaults, and has poured the filth accumulated during previous dry months into the streams and wells which furnish water for washing dairy utensils and over fields of growing vegetables and green stuff.

TO AVOID TYPHOID FEVER.—1. Drink only water positively known to be pure or sterilized by boiling, distilling or filtering. 2. Pasteurize all milk and cream used for drinking purposes, especially by the young. Milk and cream raised to a temperature of 150 to 160 degrees for from twenty to twenty-five minutes is made perfectly safe and will keep several days without souring. 3. Wash all vegetables, fruit and green stuff intended to be eaten raw in water that has been boiled at least twenty minutes and then cooled. 4. Do not put ice in water or any other beverage; cool by putting the vessel in the ice—not the ice in the vessel. 5. Keep flies out of the house by screens, and cover all food supplies, so as to prevent these insects from crawling over them; typhoid fever and other diseases are spread by these pests.

MARYLAND.

Baltimore.

Mortality from Gasoline.—Dr. Bosley, Health Commissioner, calls attention to the startling mortality due to gasoline as fuel and illuminant, and strongly advocates a law prohibiting its use in the city.

Baltimore Deaths.—For the week ended August 9, there were 238 deaths, diarrhea leading with 53, and consumption coming second with 25. Other causes were cancer, 5; dysentery, 7; drowning, 4; diphtheria, 2; whooping cough, 7, and sunstroke and electric shock, each 1. The annual death rate for the week was, whites 21.61, colored 27.30; and the general death rate, 22.48 per 1000.

Sweatshop Inspection.—Since July 1, the Bureau of Statistics and Information has been actively at work inspecting sweatshops and tailoring establishments. While inconveniences are caused, the new law meets with general approval, as cleanliness and better condition of property are secured. Six hundred inspections have been made. More than 300 permits to work, and 250 notices to change conditions or move families or shops have been issued. One hundred and fifteen notices were turned over to the Health Department calling attention to the necessity for cleaning water closets.

Personal.—Dr. William Pawson Chunn will spend the remainder of the summer in the mountains of Virginia.——Dr. J. W. Smith will spend August in Denver.——Dr. George T. Kemp sailed for Bremen, July 29.——Dr. Ellis C. Garee, of the health department, is ill with typhoid fever.——Dr. Alan W. Smith is spending the month at Portland, Ore.——Dr. Robert Hoffman returned from a professional visit to Venice, on August 9.——Dr. John C. Hemmeter is at Newport, R. I. ——Surgeon J. J. Murphy has returned from a cruise in the U. S. Coast-Survey steamer *Pathfinder* among the Philippine Islands and is awaiting orders to the steamer *Bache*.——Dr. Francis T. Miles is convalescing from his late illness at Atlantic City.——Dr. J. Edward Benson of Cockeysville was thrown from his buggy on August 6 and badly injured.——Dr. Edward N. Brush has returned from Europe.——Dr. Leonard K. Hirshberg is attending the Vienna hospitals.——Dr. H. H. Flood is in Copenhagen.

MASSACHUSETTS.

Dr. Draper Resigns.—Dr. Frank W. Draper, Boston, has tendered his resignation as a member of the State Board of Health, on account of ill-health.

For New Hampshire Institution.—The trustees of the New Hampshire Home for the Feeble-Minded at Laconia, have selected Dr. C. Sherman Little, Waverley, as the superintendent of the new institution.

Half a Century of Practice.—Dr. James Hedenberg, Medford, who recently celebrated the fiftieth anniversary of his entrance into the practice of medicine, was presented by his fellow practitioners with a gold-headed cane and a box of 50 Jacqueminot roses.

Physicians Injured.—Dr. Maurice H. Richardson, Boston, met with a serious accident, July 30, at Marion. While driving, the horse became unmanageable and Dr. Richardson jumped out, breaking his left leg at the ankle.——Dr. Proctor K. Brown, East Milton, sustained severe injuries to his left arm and leg July 12, by a collision between a street car and his carriage.

MISSISSIPPI.

Jackson to Have Hospital.—Physicians of Jackson have organized a company to build a hospital in Jackson to cost $25,000.

Biloxi Sanatorium.—Dr. Hyman McM. Folkes and others of Biloxi have incorporated the Biloxi Sanatorium for the treatment and care of the sick and disabled, and the establishment of one department for those who are marine patients and another for other patients.

Physicians Must Pay Tax.—Physicians in the Yazoo-Mississippi delta levee district are up in arms against the levee board because of the action of the board in imposing a privi-

lege tax of $10 on each practicing physician in the district. Under the state law the doctors are exempted from the payment of this tax, as a special act of grace, and the doctors have been so long accustomed to this exemption that they are unwilling to concede the right of the levee board to tax them. Attorney-General McClurg has received in all fifteen letters from physicians in the district complaining of the action of the board and inquiring if they can be compelled to pay the tax under the law. There is nothing in the law which exempts doctors from the action of the board. The legislature gives the board authority to levy a special tax on privileges and the physicians have no recourse.

NEW YORK.

Bequest.—Faxton Hospital, Utica, is to receive $1000 under the provisions of the will of the late Mrs. E. J. Spalding of Herkimer.

Iselin Enlarges Convalescent Home.—The work of enlarging the St. Eleanorus Home for convalescent patients from New York hospitals, built by Adrian Iselin, at Scarsville, was completed yesterday. Mr. Iselin has expended more than $150,000 on the property.

St. Mary's Hospital, Amsterdam.—The sisters of St. Joseph are remodeling the Marcellus property in Amsterdam, at a cost of $1000, and will also erect an addition. The building will be opened as a general hospital as soon as completed and will accommodate 75 patients.

Lapse of Appropriation Modifies Plans.—At a meeting of the board of trustees of the State Hospital for the Treatment of Incipient Tuberculosis, held in Albany, July 30, it was decided to go ahead with the construction of the administration building and one wing. It is the intention to open the hospital at Raybrook, Essex County, with facilities for 100 patients, in the fall of 1903. The meeting was called because it had been discovered that the reappropriation of $50,000 for the hospital had lapsed in the last legislature.

New York City.

Lincoln Hospital.—The Colored Home and Hospital has been granted permission to drop that title and assume the name of the Lincoln Hospital. The hospital has a number of white patients, and the use of the word "colored" has caused a prejudice which prevented such patients from coming there. This difficulty is obviated by the change of name.

Decrease in Contagious Diseases.—The report of the Department of Health for the week ended August 2 regarding the cases of infectious and contagious diseases, shows that there are fewer cases in the city now than in years. The total recorded for the week was only 676, while the previous average had been 1000. Scarlet fever dropped, 91 cases being recorded, against 133 for the week ended July 26. Tuberculosis also shows a decrease, 30 fewer cases being recorded.

Interne Dismissed from a Hospital.—Dr. James Walsh, a member of the house staff of the Fordham Hospital, has been dismissed by the Bellevue Hospital Board of Trustees because of unbecoming conduct and insubordination. This action was not hasty, but was taken on the recommendation of the medical board of the hospital after Dr. Walsh had been found guilty of several offenses. Among others, he refused to remove the ether cone from the face of a patient when ordered to do so by the operator.

Physicians Assaulted.—It is the custom of the Lying-in Hospital to send students to cases of confinement on the first call, and later one or more of the regular staff of physicians. This was done in a recent case occurring in a district thickly populated by ignorant people. The woman was critically ill with pneumonia at the time, and when she died, the neighbors, under the impression that the woman had only been attended by medical students, set upon both students and instructors and assaulted them.

Summer Infantile Mortality.—The Board of Health has made public certain records which show that, despite the unusually cool weather this summer, there has been a very high mortality among infants. It is asserted that this excessive death rate began about the third week of June, reached a maximum a month later, and then declined. The deaths are for the most part due to diarrhea, and the health authorities are quoted as attributing this to improper food, but it does not appear that the food supplied to the children is any worse than it has been in past summers; indeed, all physicians who have practiced in this city many years recognize that there has been less sickness among the poor waifs of the tenements during the last few years as formerly during the heated term. It is also interesting to note that although the records of the health department point to so large a mortality among infants during the past few weeks, physicians and druggists generally unite in declaring that they have not been so busy this summer as they were during the excessive heat of a year ago.

NORTH CAROLINA.

Personal.—Dr. Baxter R. Hunter, Shelby, has been appointed assistant surgeon general of the state with the rank of major.——Dr. G. Ray Hoff and wife have returned from Asheville to their home in Utica, N. Y.——Dr. Edward Jenner Wood, Wilmington, is spending the summer in Europe.

Presentation to Dr. Way.—One of the most pleasing features of the recent meetings of the Medical Society of the State of North Carolina at Wrightsville Beach, was the presentation to Dr. J. Howell Way, Waynesville, by his confrères of the State Board of Medical Examiners, of a handsome cut glass banquet punch bowl and silver ladle.

Hospitals and Donations.—The Pitt County Hospital Company has been incorporated at Greenville by Drs. Elbert A. Moye, Jr., Charles O. H. Laughinghouse, William H. Bagwell and others.——The Charlotte clinic of the North Carolina Medical College is to open a free hospital in that city.——A public hospital at Washington has been assured by the donation of $10,000 by Mr. Bruce.——Dr. Henry O. Hyatt, Kinston, offers to be one of 65 to give $1000 each to establish a hospital in that town.

OHIO.

Donations.—Robert C. McKinney, Hamilton, has provided a new hospital for the Children's Home in that city.——Cleveland General Hospital has received an anonymous donation of $5000.

Typhoid Prevalent in Cincinnati.—Typhoid fever is alarmingly prevalent in Cincinnati, and the City Hospital now has 17 cases in various stages. It is marked with very high temperature and presents a more serious aspect than in previous years.

Not Entitled to Pay While Suspended.—The Attorney General has delivered an opinion to the effect that Dr. A. P. Ohlmacher, now superintendent of the Ohio State Hospital for Epileptics, Gallipolis, is not entitled to $1200 claimed to be due him for the time he was off duty on account of suspension by former Superintendent Rutter. The Attorney General holds that Dr. Rutter had full authority to suspend a subordinate officer.

Personal.—Dr. Abraham T. Fulton, Mount Vernon, fell through an elevator opening and fractured his left arm and left patella.——Dr. J. Henry Schroeder has resigned as interne in the City Hospital, Cincinnati, and Dr. Stanley E. Zinke has been elected in his place. Dr. Walker J. Smith succeeds Dr. Zinke as a member of the house staff of Good Samaritan Hospital.——Dr. William H. Rush, Greenville, sailed for Liverpool, August 6.

College Will Not Re-Open.—The faculty of the Cincinnati College of Medicine and Surgery decided, August 8, not to reopen for the coming fall session. The reason for this closure is the falling off in attendance, which has become so marked in all the institutions of medical teaching throughout the state since the entrance requirements have become so rigid. In Toledo and Cleveland combinations of rival medical schools were necessitated. The Cincinnati College was founded by an act of legislature, March 7, 1851, by Dr. A. H. Barker of Eaton, Ohio. The list of those who have been members of the faculty include some of the most prominent names connected with medical education of this state: Drs. Thad. A. Reamy, Daniel Young, P. S. Conner, C. G. Comegys, Tate, Wright, Vaughn, and Charles A. L. Reed.

UTAH.

Dr. Fowler's Will.—The will of the late Dr. Allen Fowler has been filed for probate. The estate is valued at $130,000.

Typhoid at Sunnyside.—It is reported that there are at least 60 cases of typhoid fever at Sunnyside Coal Camp, east of Price, and the aid of the State Board of Health has been invoked.

Salt Lake City's Health.—The July report of Salt Lake City shows a death rate of 9.76 per 1000 per annum on the estimated population or of 13.83 on the basis of the United States censors. The deaths were 61, while 104 births were reported.

W. H. Groves Latter-Day Saints' Hospital.—Contracts will soon be let for the W. H. Groves Latter-day Saints' Hos-

pital, Salt Lake City. The building will cost $75,000, and will be four stories high, and will be constructed of fine pressed brick and cut stone, with terra cotta facings. There will be over 100 rooms for patients. The late Dr. W. H. Groves left $40,000 as a nucleus fund some years ago for this hospital. Dr. J. S. Richards will head the hospital staff.

GENERAL.

Cause of Yellow Fever.—The preliminary report from the members of the United States commission who are investigating yellow fever at Vera Cruz, Mexico, states that excellent progress is being made in the endeavor to ascertain definitely the cause.

Negro Mortality.—Dr. F. J. Shadd, of the Freedman's Hospital, Washington, D. C., chairman of the Committee on Vital and Sanitary Problems, in his report to the Hampton Negro Conference, recently held, said that "the most fruitful causes of the alarming death rate among the colored people are the following: Infant diseases, tuberculosis, specific infection, gastrointestinal disease, heredity and environments." His committee is of the opinion that most of these conditions can be changed by the negro himself without the aid of any outside influence. Dr. Shadd says that the death rate of the negro is double that of the whites, except in the army, showing that the negro, per se, is healthy and strong, but needs proper environments.

Government Report on Hookworm Disease (Uncinariasis or Anchylostomiasis.)—At the request of Dr. Walter Wyman, Surgeon-General of the U. S. Public Health and Marine-Hospital Service, Dr. Stiles, Zoologist of the U. S. Bureau of Animal Industry, has prepared an article entitled "The significance of the recent American cases of hookworm disease (uncinariasis or anchylostomiasis) in man." This article will appear in the forthcoming Annual Report of the Bureau of Animal Industry and covers 37 pages, containing a general discussion of the subject, full descriptions of the parasites involved, with their life-history, also symptoms, methods of infection, preventive measures, treatment, abstracts of the cases thus far reported for this country, and a bibliography of American literature on the subject. It is illustrated by 84 text figures of the parasites in different stages, and of the eggs of other parasites which are found in feces and which might lead to errors in diagnosis. There is also a description of the method to be followed in fecal examination.

CANADA.

Appointments.—Dr. W. H. Groves, formerly of Toronto, has been appointed surgeon of the *Tarquah*, the vessel selected for the Hon. Joseph Chamberlain and the colonial party at the naval review at Spithead.——Dr. C. H. Christie, graduate of Bishop's Medical College, Montreal, has been appointed surgeon on the S. S. *Nyanga*, which left England July 9 bound for the West African coast.

Precautions for Sale of Poisons.—The Council of the Ontario College of Pharmacy has been in session in Toronto during the past week. One of the most important subjects under discussion was the question of devising means to surround the sale of poisons and dangerous drugs with greater precautions for public safety than at present exists. An effort will also be made to encourage scientific research. A recommendation was also approved looking toward the adoption of the metric system in Canada.

Executive Health Officers of Ontario.—The annual meeting of this association will be held at Berlin on the 9th and 10th of September. The experimental work which has been carried on at Berlin by the government under the direction of the Provincial Board of Health on the septic tank method of sewage disposal will be well advanced by that time and will be inspected by the members of the association. The special committee on vaccination will present its findings. Dr. P. H. Bryce of Toronto is the secretary.

FOREIGN.

New Yucatan Hospital.—The contract has been let for $881,000 for the civil hospital at Merida, Yucatan. It is to be the finest in the republic.

Riehl to be Kaposi's Successor.—Professor G. Riehl of Leipsic, a former pupil of Kaposi's, has received a call to the vacant chair of dermatology at Vienna.

Krafft-Ebing's Successor.—Prof. Wagner von Jauregg will probably be called to the chair of psychiatry at Vienna to succeed Krafft-Ebing. The latter has settled in Graz.

Footprints in Anthropometry.—Marcel Baudouin suggests that the print of the foot would be found useful as a means of identification of habitual criminals, supplementary to the usual measures.

Medical Supervision of Orphans.—The "city physicians" of Charlottenburg are now required to keep a constant medical oversight over all children under six years of age who are in asylums or boarded out.

A Monument to Preissnitz.—All hydrotherapeutists are asked to contribute something toward a monument to Priessnitz, the father of hydrotherapy. It is to be erected at Vienna and contributions can be sent to professors Chrobak, Winternitz or Ludwig.

Gaiani Prize.—A prize of 500 lire, about $100, is offered by the Societa Medico-Chirurgica of Bologna for the best work received before 1903 on the subject of "Serum Diagnosis of Tuberculosis." All competing communications must be addressed to the secretary of the society, and be written in Latin, French or Italian.

An International Pharmacopeia.—The first international conference to discuss uniform standards for the stronger remedies will meet at Brussels, September 15. The Belgians have been working for years to secure an international pharmacopeia, and this conference is the first tangible step toward the realization of their ideal.

Medical Conversazione.—The New South Wales branch of the British Medical Association gave a conversazione at the University of Sydney, June 24, including among the guests government officials and members of parliament, foreign consuls and ministers. An exhibit included pathologic models and specimens, old books, electric devices with demonstrations, chemical and biologic apparatus.

Prize Essay on the Prevention of Venereal Diseases.—Dr. Max Silber of Breslau was awarded the prize of 600 marks for the best essay on means of combating venereal diseases as a public evil. Twenty-one essays were received in competition. The sum of 400 marks has been appropriated for the publication and distribution of the prize monograph. The prize was offered by the Leipsic Krankenkasse.

Medical Translation of the Arabian Nights.—Dr. J. C. Mardrus, an Arabian graduate of a French medical college and practicing medicine at Marseilles, is publishing an unabridged translation of the "Thousand and One Nights." It portrays the medical lore of the day and many curious customs and observations. The part last published contains "Aladdin" and other stories, with descriptive poems on fruits and herbs.

The Campaign Against Exaggerated Medical Advertisements in Germany.—A Berlin dentist advertised the absolute freedom from danger and the painlessness of his operations on the teeth. The local dental association complained to the authorities, and the dentist was summoned to court and warned that any repetition of the advertisement would entail a fine of 50 marks. He was also assessed the costs of the proceedings.

Special Rates to the International Congress of Gynecology at Rome.—The *Presse Médicale* is organizing an excursion to Rome from Paris for this congress which will be held September 15 to 24 as already announced. All the Italian railroads allow a rebate of 50 per cent. to members of the congress and the expense of the *Presse Médicale's* party will be 450 francs, about $90, each. Dr. Micheli, via Rasella 127, Rome, is treasurer of the congress.

Death of Professor Porro.—Prof. E. Porro of Milan, whose name is familiar to all surgeons by his modification of the Cesarean operation, died July 18. He was senator at the time of his death, and has always taken an active interest in political affairs. He was one of Garibaldi's famous "thousand." While our countryman Storer anticipated him in the amputation of the gravid uterus, yet Porro has the credit of establishing its practicability, and his name will therefore have its place in the landmarks of obstetric progress.

German Society for the Protection of the Economic Interests of Physicians.—THE JOURNAL has described this organization founded to support the medical officers of sickness insurance societies in resisting extortion, and in other matters affecting their pecuniary welfare. There are now 2893 members, 90 per cent. of whom are medical officers in the "*Kassen*"; 72 university professors are on the list, and both of the Bavarian princes who are registered physicians. Hartmann of Leipsic is the founder and president of the organization. One of its chief aims is to secure the introduction of

the "American method," the free choice of a physician by the lodge members, and many of the societies are adopting it.

Statistics of the Criminal Insane.—Professor Hoche of Strassburg has been instrumental in founding a committee whose task is to collect from the daily papers every reference to injuries and crimes committed by the mentally irresponsible, suicides, collision between the police or military and insane or feeble-minded persons, detention of supposed insane, etc. It is hoped to gather material in this way for the purpose of educating the public in regard to professional alienists and the insane. Bourneville of Paris has long been pursuing a similar plan, publishing in his periodicals, *Progrès Médical* and *Archives de Neurologie*, items culled from the French press in regard to injuries and crimes committed by or on the mentally irresponsible at large.

The Schweninger Affair Again.—Eighteen years ago Bismarck's influence secured for his "body physician" Schweninger, the chair of dermatology at Berlin, to the amazement of the profession. He has recently been transferred to be professor of the history of medicine and of general pathology. These chairs have never before been conferred on any one who had not previously distinguished himself in these lines. Schweninger's only claim to the former, as our German exchanges remark, is a recent public lecture on "Fashions and Tendencies in Medicine," which was largely attended by medical students who received many of his statements with groans. Pagel is the regular professor of the history of medicine and Brieger of general pathology, and Schweninger's appointment is evidently a sinecure as it will not interfere with the regular courses.

Medical Study Trips to Health Resorts.—For the last few years the physicians of France and Germany have organized an annual trip to noted national health resorts and watering places. These "*voyages d'études médicales*" or "*Studienreisen*" are very popular. The German trip last year included the Black Sea resorts, the French those in the southeastern part of the country. The scientific part of the French trip is in charge of Landouzy this year, while Dr. Carron de la Carrière, 2 rue Lincoln, Paris, has charge of the details. The party leaves Paris September 7 and disbands the 16th, after visiting the resorts in the Jura mountains. The total expense is $40. The German trip is in charge of Dr. P. Meissner, Kurfürstenstr. 81, Berlin, and the party, which is limited to 400 members, will meet at Dresden, September 10, for a trip to the central German and Bohemian resorts under the leadership of a committee of noted clinicians. Foreign physicians are always welcome on these study trips, as also the wives of the members of the party.

LONDON LETTER.

Arsenic and the Increase of Cancer.

In the Polyclinic Mr. Jonathan Hutchinson continues his advocacy of the suggestion that arsenic has played a part and possibly not an unimportant one in the recent increase of cancer (see also THE JOURNAL, May 31, p. 1453). He refers to the fact that soot contains arsenic as an explanation of "chimney-sweep's cancer." If this be accepted the article on cancer in the new volume of the Encyclopedia Britannica reads like a prophecy. Dr. Shadwell, in discussing the influence of vocation on the incidence of cancer, there writes: "The soot is supposed to act as an irritant, but if so why are potters and coal miners, who also work in irritating materials, so very low in the cancer scale? No doubt the case of the chimney-sweep contains one of the keys to the problem of cancer causation, but it has not been found yet." The registrar-general's statistics, which show that the avocation of chimney sweep is the most dangerous, give other important hints. Next to the sweeps come in order innkeepers, brewers, servants in inns, commercial travelers and malsters. Possibly these may have been exposed to the influence of arsenical beer. As has been pointed out in THE JOURNAL (loc. cit.), it has recently been shown that arsenic in minute quantities is constantly present in beer and is derived from the coke used to dry the malt. Mr. Hutchinson further suggests that the alleged influence of certain houses in producing cancer may be due to arsenical wall papers. As psoriasis is so commonly treated with arsenic, he suggests that the causes of death of the patients should be investigated. Dermatologists have already observed a connection between psoriasis and cancer. Perhaps arsenic is the link. Another important fact is furnished by the statistics of the "Friends' Provident Institution." During the last twenty years there has been no increase of cancer in the Society of Friends, who are mostly abstainers. During the last thirty years the cancer death-rate has doubled in the general population (THE JOURNAL, April 19, p. 1018).

A Case of Arsenic Cancer.

At the Polyclinic Mr. Jonathan Hutchinson showed the following case: The patient was an old man who was first seen in September, 1899, when he was 70. He then had an ulcer of some standing on his right forefinger and another on the back of the right shoulder, just where the braces might have rubbed. The palms were rough and corneous, which led Mr. Hutchinson to diagnose at once arsenic cancer. Investigation proved that he had taken much arsenic. Amputation of the finger and free excision of the ulcer on the shoulder were performed. Microscopic examination showed that both ulcers were squamous-celled epitheliomata. A year later a subcutaneous growth was present near the scar on the shoulder. On excision it was found to be "a soft carcinoma of the acinous type." When the patient was shown the scar of the amputation of the finger was horn-like and crossing it was a deep fissure, florid at the bottom. The palms were roughened by numerous corns; some were also present on the sides and backs of the fingers. There were many little patches of dry-roughened skin on the trunk and limbs. The skin of soles were thickened on all parts exposed to pressure. On the face were scabrous patches, any of which might be the beginning of more serious change. There were also a few on the bald scalp. There were enlarged glands in both axilla and in the right posterior triangle of the neck. About the age of 20 the patient developed psoriasis, which relapsed from time to time all his life. He was repeatedly under drug treatment, and a few years prior to the first consultation he took 7 minims of Fowler's solution thrice daily until it disagreed. The symptoms were emaciation, debility, numbness in the feet and hands, and tinnitus.

Mr. Hutchinson's original paper on arsenical cancer was presented to the Pathological Society in 1887, and general incredulity was felt as to the connection. Subsequent observations are few. In 1894, Mr. Arbuthnot Lane recorded the case of a man, aged 63, who had taken arsenic for psoriasis about half his life. In 1892 an epithelioma two inches in diameter was excised from the back of the forearm. In 1893 there were three distinct cancerous ulcers on the scrotum, and in December, 1893, and January, 1894, new ulcers on the same part. Mr. Hutchinson subsequently described the following cases of arsenical cancer: (1) A man, aged 35, had keratosis of the palms and had three growths excised from different parts in seven years. (2) A man, aged 46, was emaciated and very ill. Cancer developed in an old psoriasis patch on the abdomen and also on the back. His hands became harsh and dry, but corns did not form. He had taken arsenic since the age of 14. (3) A lady had taken arsenic for long periods for lupus. In December, 1888, her palms and soles were in a condition of keratosis and arsenic was forbidden. In July, 1890, the palms and soles had recovered. At one time in 1877 whilst taking arsenic the edge of the lupus patch assumed the hard rolled condition of rodent ulcer. (4) A lady, aged 45, who had for a long time had keratosis of the palms had a squamous-celled epithelioma of the neck as big as a child's fist. Thickened, ulcerated skin had twice been excised from her palms. The interval between the date of suspension of arsenic and the development of keratosis may be prolonged over many years. In one typical case of arsenic cancer the arsenic was taken in early life and the cancer did not develop until senility.

The Imperial Vaccination League.

This league was started last year to further vaccination and counteract the mischievous anti-vaccination league. It has recently been remodeled and has secured the support of many eminent persons. The Duke of Fife is president, and Lord Averbury treasurer. The vice-presidents include the Archbishop of Canterbury, Duke of Westminster, Bishops of London, Stepney and Rochester. Cardinal Vaughan, the Chief Rabbi, Sir William Broadbent, Mr. Jonathan Hutchinson and Sir James Crichton Browne. The council will be composed of eminent medical practitioners, public health officers, large employers of labor and other influential persons in direct touch with the classes most prejudiced against vaccination. The league will collect opinions from those most competent to form them as to what amendments of the act of 1898 may suitably be urged on the Government before the end of next year, when the act will expire. Among the most important points for consideration are (a) whether vaccination at the school age should be made compulsory, (b) to what public authority the administration of the vaccination law should be transferred, (c) the need of establishing well-equipped laboratories for the preparation and supply of glycerinated calf lymph adequate for all ordinary demands, and for all establishments for the

preparation of lymph being regulated and kept under Government inspection; (d) the need for legal definition of "efficient vaccination," and for certificates of vaccination to show whether vaccination has been efficient or not. The league will put the opinion arrived at on these points before members of Parliament. It will also aim at placing clearly before the public the immense value of vaccination and revaccinations as a protection against smallpox, and it will encourage many indirect methods of supporting vaccination. It will consist of members subscribing at least one dollar a year, and associates subscribing not less than half a dollar a year, but larger donations and subscriptions will be necessary, especially at first.

Acute Pyelitis in Infancy.

At the Obstetrical Society of Edinburgh, Dr. James Ritchie described the following case of this rare and comparatively recently recognized condition. A well-nourished female child, aged 7½ months, who had been fed a humanized milk and had always enjoyed good health except that she had been costive, had a rigor on July 14. When seen the temperature was only slightly elevated. At the anus was a small crack. It was stated that the child sometimes cried when the bowels were moved, and at times a streak of blood was observed in the motions. The urine was normal. On the 18th another rigor occurred. Sodium salicylate, gr. 1, every two hours was given. On the 21st, as the temperature was normal, the drug was stopped. But next morning the temperature was 101 and the drug was therefore resumed. The temperature varied greatly, reaching as high as 104 F. On the 25th, the urine was found to contain pus corpuscles and a multitude of bacteria singly and in clumps. Pot. cit., gr. 1, every two and one-half hours, to be increased until the urine was neutral, and the milk to be much diluted, were ordered. Next day, as the child seemed more uneasy on movement, sodium salicylate, gr. ½, was added to each dose. On the 27th or 28th a rigor occurred. The temperature did not become permanently normal until August 10. The amount of pus in the urine was never large. The crack at the anus probably afforded a gate of entrance of the *bacillus coli communis* to the system, which set up the pyelitis.

Annual Meeting of the British Medical Association.

The seventieth annual meeting of the British Medical Association was held at Manchester, July 29 to August 1. It was well attended, over 1500 members being present, and both in its scientific and social features was an unqualified success. The president, Mr. Walter Whitehead, consulting surgeon to the Royal Infirmary, Manchester, delivered a scholarly address on "Manchester's Influence on the Advancement of Medicine and Medical Education." The address in medicine on "The Study of the Natural History of Disease the Basis of All Advance in Its Treatment" was delivered by Sir Thomas Barlow, physician to his majesty's household and to University College Hospital, London. All the sections were housed under one roof—the Owens College. The annual exhibit of drugs, surgical and sanitary appliances and special foods was held in the drill hall in Burlington street, about five minutes' walk from Owens College. It was opened by the Lord Mayor of Manchester. A special feature was a sanitary section and a motor-car section.

Cholera in Egypt.

The outbreak of cholera is very severe at Cairo, the disease appearing in every quarter of the city; 120 cases are recorded in one day. The British regiments have been transferred to a camp in the desert. All the public drinking places have been closed and the city placarded with notices warning the people against the use of unboiled Nile water and suggesting other precautions. From July 15 to 26, 469 cases and 382 deaths have occurred. The last great cholera epidemic in Egypt broke out in October, 1895, and lasted in a severe form until October, 1896, when nearly 15,000 deaths had occurred in lower Egypt.

Cancer Research.

The organization of the fund established for investigating the nature, causes and cure of cancer has now made such progress that active operations will soon be begun. The Prince of Wales has consented to act as president of the fund and the vice-presidents are Lords Lister and Strathcona, Mr. A. Balfour, Sir F. Bramwell, Sir W. Broadbent, and Mr. H. L. Bischoffsheim. Mr. H. Morris is treasurer. Five trustees have been appointed, Sir D. Powell for the Royal College of Physicians, Sir A. Cooper for the Royal College of Surgeons. The executive committee is composed of Sir W. Broadbent, Sir W. Church, Sir H. House, Drs. S. Martin, Pye-Smith, and Rose-Bradford, Prof. Sims Woodhead, and Messrs. Langton H. Morris, Butlin and MacFadyean (representing the Royal Veterinary College). The contributions actually paid amount to $160,000, and promises of $20,000 more have been received; $500,000 was originally asked for and is considered necessary.

The Plague.

The deaths from plague in India during the week ending July 5 numbered 1058—a marked fall from the previous week, when they were 1684. The chief decline is reported from the Punjab, when from the week ending June 28 when there were 1026 deaths, a remarkable drop occurred to 110 for the week ending July 5. In Bombay city during the week ending July 5 29 persons died of plague—a decrease of 19 on the preceding week. In the Bombay Presidency during the same period 565 deaths occurred. A material increase on the previous week. In Mysore state during the week ending July 5 178 deaths occurred. In the North West Provinces and Oudh plague is practically extinct. In the Madras Presidency, since the beginning of the epidemics in 1898, there have been returned 15,190 cases and 12,202 deaths. In consequence of the gravity of the plague in the Punjab an enormous campaign of universal voluntary inoculation is proposed during the next cold weather costing $270,000. It is intended to inoculate 6,000,000 people and 37 doctors will be imported from England at a salary of $250 per month as inoculaters. Nothing on such a gigantic scale has ever been done in the history of inoculation. The method adopted will be that of Haffkine. The government admits the failure of palliatives, and is convinced that inoculation is the only hopeful measure. A six weeks' culture of the plague bacillus in broth is heated to kill the bacilli and injected into the arm or flank. It has been found that those inoculated are less liable to plague in the proportion of 1 to 9 than the non-inoculated, and that the mortality is only 2/3 of that of the non-inoculated.

During the week ending July 20 15 fresh cases of plague have occurred in Egypt and 7 deaths. Of these 12 fresh cases and 5 deaths have occurred in Alexandria. On July 20 15 cases remained under treatment—11 in Alexandria, 2 at Toulsh and 2 at Damanhour.

Tuberculosis in Asylums for the Insane.

In November, 1899, the Medico-Psychological Association discussed the necessity of isolating the tuberculous insane, and in 1900 appointed a committee to investigate the question. Important evidence was collected by means of schedules issued to the public asylums. The report has just been issued. The main conclusion is that phthisis is prevalent in public asylums to an extent which calls for urgent remedial measures and that a large proportion of the patients contract phthisis after admission. Susceptibility seems to be higher in patients drawn from the large towns than in those drawn from the country. The average death rate from phthisis in asylums with a rural population is 16 per 1000, with an urban population 30 per 1000. Overcrowding and consequent deficient air-space are the most important causes conducing to the high death rate in asylums. The committee is satisfied that there is not sufficient cubic space per patient in the majority of asylums and that where the inmates spend many hours in the open air the death rate is appreciably lowered. It recommends that 1200 cubic feet of air space with efficient ventilation should be the minimum provided for each sleeping patient; that all the wards should be provided with spittoons containing disinfectants, and that bedding should be freely exposed to fresh air and sunlight daily. The early diagnosis is difficult. Weighing every suspected patient weekly and taking the temperature every four hours are important aids. When early signs of phthisis are found the patient should be isolated, which has been done in few asylums. In the County Asylum at Lancaster it has been employed for 12 years, with the result that the tuberculous death rate has fallen 50 per cent. New asylums in the course of erection are being provided with isolation blocks.

Journal for the Army Medical Service.

The expediency of establishing a journal devoted to the Army Medical Department has been under consideration some time. Sir W. Taylor, director general of the Army Medical Department, has issued a circular asking the officers for an expression of views on the subject. It is pointed out that the proposed journal would to a great extent take the place of the present appendices of the Army Medical Department, and would embrace the following items: 1, original articles by officers and others; 2, bibliographical notes on articles of importance and interest to the military services; 3, reprints and translations from military, medical and other journals; 4, official gazettes and other official information on the Army

Medical Services. The journal would be conducted and edited under the supervision of a committee representative of the headquarters staff, the Medical Staff College and the advisory board for army medical services. To this committee officers who have made special studies of any subject are invited to give their names as referees. The annual subscription will not exceed $5.

Correspondence.

The Proposed Constitution and By-Laws for County Societies—A Suggestion.

ELKINS, W. VA., Aug. 10, 1902.

To the Editor:—As with the model of a constitution and by-laws for the reorganized state societies, so with the one now proposed for county societies, the committee has done its work well and deserves the thanks of the profession. Apart from the fact that it has contributed much toward a more uniform manner of organization of the different state associations, it has materially hastened their reorganization and has enabled many of them to materialize the suggestions of the American Medical Association even before one year has transpired from the time they were first made. Speaking for my own state, I can say that it is, at least in part, owing to the work of that committee that it is able to boast to-day of having been the first one to reorganize on the lines laid down by the American Medical Association at its St. Paul meeting. Allow me to repeat parenthetically that West Virginia is not only "in line," as you conceded in a recent issue, but has really a claim to priority in this respect.

But if the work of this committee has proven of so much benefit in the reorganization of the state associations, it should prove of still greater benefit in the case of county societies. For if the number of men with executive ability is rather small among the members of the state associations, they may be entirely absent from many county societies, hence the great utility of a model constitution and by-laws for the same by men well qualified to draft such. To give to this work of the committee the largest range of usefulness, I would suggest that a large number of reprints of the proposed constitution and by-laws for county societies be made by the presses of THE JOURNAL for distribution, at the cost of printing, among the state association, which in turn will send them to existing and prospective county societies within their respective jurisdictions. The work of the committee will thus be made to reach its objective points. Of course, each state association could take the whole matter in its own hands and by a small outlay could print a number of copies for its own use. But apart from the additional expense that independent printing would incur, the element of procrastination may cause serious retardation of medical organization—in some states at least.

WILLIAM W. GOLDEN,
Secretary, West Virginia State Med. Ass'n.

[NOTE.—Reprints will be ready in a few days at a nominal price.—ED.]

What the General Practitioner Needs.

MAN, W. VA., Aug. 1, 1902.

To the Editor:—Progress is the ever restless, unsatisfied, aggressive law of human wisdom and experience, and the march of this unsatiated human intellect, in every direction, is ever onward and upward, and will be so to the end of time. So long as knowledge increases, opportunity is multiplied and with it, additional motives, to ambitious incentive, drive the wheels of effort and energy in all the fields of scientific enterprise. Thus we find the standard of excellence of to-day placed up on a higher elevation to-morrow, such progression continuing unceasingly, ever seeking but never reaching the greatest heights, which lie in the limitless beyond. What a stupendous thought is this—No limit to human attainment! Yet the country practitioner gathers very little from the modern medical journal and many of the text-books of new authors from the fact its discussions deal almost exclusively with microscopical etiology and pathology, and laboratory tests to which the average country and village doctors have no access. There is no question but what specialists are leading each branch of medicine into difficult pathology, and a greater part only a theoretical proposition which the general practitioner of to-day dares to undertake to verify. We believe it would be better to leave such articles in the hands of these various specialists until such is proven practical to the general practitioners without such requisites as only the best school and hospital laboratories contain. If some of this space should be devoted to clinical medicine—say the differential diagnoses of the eruptive diseases of to-day—modern typhoid, smallpox, etc., we would better appreciate the effort toward our instruction.

I suppose when the dental college adds medical and physical diagnosis to its curriculum and the pathologist and bacteriologist give us a few more reactions, similar to Widal-Grunbaum's, for other diseases, and some further specialistic divisions, it will only be necessary for us to know what specialist to call and administer a placebo until he arrives.

We demand practical information that we can usurp. We demand a more limited and judicious field of therapeutics. We want clinical statistics compiled and the best and most practical dispensation agreed upon. If our clinical professors agree that medicine is a science as well as an art why should we not find better harmony in therapeutic application. A great many doctors to-day (some very young) are seeking notoriety and reputation by technical pathologic theorizing instead of an effort to develop practical facts which would benefit the greater field of medicine. We are reading ourselves blind and yet not gaining much practical knowledge. We insist on a more definite field of literature, with more simplicity and a more definite clinical history and the elimination of proprietary therapeutics. We want specific facts without such illicit generalization. We want the medical lights of this country to lay aside what *I* do and tell us the many things they all do alike with success. Let some of the amiable writers give us compiled practical facts with such observations as are absolutely necessary. J. E. MCDONALD, B.S., M.D.

The Pharmaceutic Exhibit at the Saratoga Meeting.

NEW YORK CITY, Aug. 9, 1902.

To the Editor:—I read Mr. Gardner's letter in to-day's issue of THE JOURNAL with peculiar interest. All his points are well taken and the grievances of both the exhibitors and of the medical profession with reference to this particular feature of the Association meetings are correctly and truthfully stated. But I think that complaints have now become superfluous, because the Association has—at the writer's initiative—at the last meeting adopted a resolution which will effectually prevent the continuance of the hitherto complained of abuses and will result in great benefit to both physician and exhibitor.

The mismanagement at the last exhibit certainly seemed to have reached its climax. There was no restraint whatsoever to the admission of the public, and as several other societies happened to meet in Saratoga at the same time our Association did, the result was that the lay public practically monopolized every inch of available space and the physician had to make his way with some difficulty. It was really "too funny for anything" to see the prim and demure Sunday-school teachers ask for samples—among others—of ichthyol vaginal suppositories and wool tampons and listen to the explanation of their wonderful properties in relieving congestion of the womb and curing leucorrhea. And I have seen people—mostly of the gentler sex—load themselves full of samples and literature, go to their hotels, presumably deposit the load in their rooms, and return for another supply. And I saw something else, which probably but few noticed, and that is that two or three firms—which should never have gained admittance as exhibitors—took special pains to unload their samples and "literature" on the lay public. For the medical profession they did not care. And it was this fact more than anything else that induced me to introduce my

resolution in the Section of Materia Medica, Pharmacy and Therapeutics, to the effect that in the future samples and literature should be distributed to those only wearing the official badge of the Association.

The pharmaceutic and surgical exhibit is one of the most interesting, most instructive and most pleasant features of the Association meetings and it would be a distinct loss to have it discontinued, or even have the first-class houses keep away, as I heard many threaten to do in the future. Let us hope that a rigid adherence to the above resolution will result in mutual satisfaction. As to the one-horse concerns that tried to advertise directly to the public—we don't want them, any way. Respectfully, WM. J. ROBINSON, M.D.
Editor, *Merck's Archives.*

Gastroptosia Not Gastroptosis. Perityphlitis Not Appendicitis.

NEW YORK CITY, August 6, 1902.

To the Editor:—An article which I had published in the *New York Medical Journal*, June 21, 1902, entitled "Gastroptosia the Cause of Symptoms Erroneously Attributed to Nephroptosia," has been reviewed in several other journals. I do not know in how many, but I noticed in two of these the title which I had given was changed to the following: "Gastroptosis the Cause of Symptoms Erroneously Attributed to Nephroptosis." I remonstrated, and I hope my protest will appear in those journals which I have addressed.

When I first introduced the correct term gastroptosia in place of the incorrect word gastroptosis I gave the reasons: A feminine noun which ends in sis, xis and psis as the second component remains unchanged when the first component is a preposition, as for instance, proptosis, periptosis, diagnosis, but if the first component is not a preposition. then in composition the ending is changed to sia, as eupraxia, apraxia, palingenesia, hierognosia and also gastroptosia. I will now add two paradigmata which are familiar to everyone: opsis—autopsia not autopsis; pexis—nephropexia, not nephropexis. To typhlon enteron is the caecum; epi means on, upon or touching; as there is nothing on the caecum but the vermiform process, the word perityphlitis is indeed an ideal term to designate the inflammation or affection of the vermiform process, and this was the name given long ago, and this is the name the affection has in the literature of our contemporaneous Greek colleagues.

There came an ignoramus and called the trouble in question appendicitis, and the multitude was anxious to furnish conclusive evidence that there is something in the hypothesis of Darwin about our descendence from the monkey. Now, having had demonstrated to them that perityphlitis and not appendicitis is a scientific term there are many who furnish more evidence for the Darwin hypothesis by insisting that appendicitis has come to stay.

In England and Germany we find the most exact and correct term perityphlitis taken up again, and it will not be an honor to the American profession to insist on some abominable word because some ignorant American colleague (who may, however, have been an excellent surgeon) had coined it.

In some secular journal I saw the report that the King of England had had appendicitis first but that this had developed into perityphlitis. Of course the meaning was that he had had perityphlitis, which had extended into paratyphlitis.

A. ROSE.

Sugar a Cause of Indigestion in Infants.

ROLLA, N. D., Aug. 8, 1902.

To the Editor:—It is a surprise to me that in all the articles on infant feeding and prevention of gastrointestinal troubles in infants, that I have been able to find, no one calls attention to one of the most prevalent and most pernicious causes, namely, the early and persistent feeding of sugar, which somehow or other mothers, midwives or some old woman manage to keep up often in spite of the specific orders of the attending physician, and even when a trained nurse is in attendance. In a fairly extensive practice of ten years I have always been able to trace such troubles in infants not suffering from organic disease to this most unfortunate habit, and to cure by a simple but efficient laxative and the exclusion of sugar. I have found scores of cases where it had been given after orders to stop it had been issued, and where I was assured that it was stopped. It is a mania with a class of women, and I have been astonished and grieved to find that this class includes a very great number, who, in every other respect, would be ashamed of any deceit. My experience is that even one grain of sacharum album a day will make the baby fret and finally present all symptoms of gastroenteritis.

Yours truly, THOR MOELLER.

Priority in Perineum Repair Technic.

BOSTON, MASS., Aug. 11, 1902.

To the Editor:—Do me the favor of making reference in THE JOURNAL to an article by me in the Transactions of the American Association of Obstetricians and Gynecologists, September, 1888, on "The Perineum, Its Anatomy, Physiology and Methods of Restoration After Injury"; also "The Reconstruction of the Pelvic Structures in Woman," American Association of Obstetricians and Gynecologists, 1892; also "The Reconstruction of the Pelvic Structures Incident to Lesions of the Perineum," THE JOURNAL of the American Medical Association, Oct. 21, 1899. Here will be found all the essentials of Dr. Noble's interesting article on "A New Operation for Complete Laceration of the Perineum"; THE JOURNAL of the American Medical Association, Aug. 9, 1902.

Sincerely, HENRY O. MARCY.

An Alleged Unauthorized Statement by an Optician.

ANN ARBOR, MICH., Aug. 11, 1902.

To the Editor:—I have recently been informed by members of the medical profession in northern Michigan that a traveling "Optician Specialist," Prof. J. Wilson Edmonds by name, is doing that section of the state and advertising that he has taken a course of instruction under my direction. I wish to say that Mr. Edmonds recently came under my care as a patient, but no course of instruction was given him, nor did he advertise such a statement with my knowledge or sanction. Hoping that you will publish this communication that the profession will understand the matter, I am,

Fraternally yours, O. A. GRIFFIN.

Association News.

Committees Appointed.

The following committees of the American Medical Association have recently been appointed:

COMMITTEE ON AWARD OF SENN MEDAL.

James H. Dunn, chairman, Minneapolis; M. L. Harris, Chicago, and Floyd W. McRae, Atlanta, Ga.

COMMITTEE ON AWARD OF ASSOCIATION MEDAL.

Lewis C. McMurtry, chairman, Louisville, Ky.; Burnside Foster, St. Paul, and M. H. Fussell, Philadelphia.

COMMITTEE ON SCIENTIFIC RESEARCH.

Alfred Stengel, chairman, Philadelphia; William Osler, Baltimore, and L. Hektoen, Chicago.

COMMITTEE OF ARRANGEMENTS FOR THE NEW ORLEANS MEETING.

Isadore Dyer, chairman; J. B. Guthrie, secretary; L. G. LeBeuf, treasurer; E. S. Lewis, F. W. Parham, R. Matas, John Callan, H. B. Gessner, F. A. Larue, E. Souchon, A. W. de Roaldes, A. G. Friederichs, E. D. Martin, J. F. Oechsner and Q Kohnke, all of New Orleans.

CHAIRMEN OF SUB-COMMITTEES FOR THE NEW ORLEANS MEETING.

On Finance: John Callan; on New Membership: F. W. Parham; on Transportation: E. Souchon; on Entertainment: L. G. LeBeuf; on Halls for Meeting Places: J. F. Oechsner; on Badges: H. B. Gessner; on General Exhibits: O. Kohnke; on Bureau of Information: A. G. Friederichs; on Programs, Publication and Printing: F. A. Larue; on Registration: R. Matas; on Postoffice: E. S. Lewis, chairman; on Hotels: E. D. Martin, chairman; all of New Orleans.

State Boards of Registration.

Migration of Osteopaths.—The osteopaths are rapidly leaving Alabama because of the recent decision of the Supreme Court requiring them to undergo examination in medicine.

Result of Examination in Utah.—The examiners met at Salt Lake City July 7 and 8 and examined 7 applicants, of whom 6 passed. The examination was written, consisting of 70 questions on 10 subjects, and 75 per cent. was the requirement. Dr. R. W. Fisher, secretary, sends us the details.

PASSED.

Candidate.	College.	Year Grad.	Per-cent.
1	Bellevue Hospital Medical College, N. Y.	1900	83
2	Denver Medical College	1901	87
3	Denver Medical College	1902	89
4	College Physicians and Surgeons, Baltimore	1902	80
5	Cooper Medical College, San Francisco	1896	80
6	*Hahnemann Medical College, Kansas City	1901	75

FAILED.

7	Iowa College P. and S., Des Moines	1901	70

* Re-examined.

Examination in District of Columbia.—Dr. William C. Woodward, secretary of the Board of Medical Supervisors, D. C., submits the detailed report given below of the results of the examination at Washington, July 10 to 15, at which 26 applicants for license to practice medicine passed and one failed. The number of subjects was 17; of written questions, 80; the percentage required, 75, and the examination was partly oral and partly written.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
326	R.	Columbia University, New York	1883	84.96
306	R.	Columbia University, New York	1899	86.53
296	R.	Columbian University, D. C.	1901	84.18
316	R.	Columbian University, D. C.	1901	86.12
310	R.	Columbian University, D. C.	1902	87.03
312	R.	Columbian University, D. C.	1902	84.00
317	R.	Columbian University, D. C.	1902	89.68
319	R.	Columbian University, D. C.	1902	89.15
320	R.	Columbian University, D. C.	1902	78.59
323	R.	Columbian University, D. C.	1902	86.96
324	R.	Columbian University, D. C.	1902	94.62
325	R.	Columbian University, D. C.	1902	80.84
327	R.	Columbian University, D. C.	1902	89.18
328	R.	Columbian University, D. C.	1902	89.12
329	R.	Columbian University, D. C.	1902	82.46
331	R.	Columbian University, D. C.	1902	85.78
322	H.	Hahnemann Med. College, Chicago	1902	86.27
333	R.	Howard University	1898	88.90
309	R.	Howard University	1902	78.21
321	R.	Howard University	1902	87.28
308	R.	National University	1902	83.87
311	R.	National University	1902	84.34
313	R.	National University	1902	86.84
318	R.	National University	1902	81.06
314	R.	University of Pennsylvania	1902	91.40
307	R.	University of the South	1901	*78.90

FAILED.

330	E.	American Medical College	1902	57.37

* Fifth examination.

Married.

BURNHAM C. DALE, M.D., to Miss Edith Sweetser, both of Marion, Ind., August 5.

HENRY O. SNOW, M.D., Abbott, Fla., to Miss Douglas Roberts of Dade City, Fla., July 30.

HAMILTON DISTON BROWN, M.D., Baltimore, to Miss Emma Catherine Imhoff, at Baltimore, July 30.

HOWARD COOMBS MILLER, M.D., to Miss Grace Belle Montgomery, both of Youngstown, Ohio, July 29.

LESLIE L. LUMSDEN, M.D., U. S. M.-H. Service, to Miss Alfreda Blanche Healy, at Seattle, Wash., July 22.

GEORGE I. MCKELWAY, M.D., Flushing, Long Island, N. Y., to Miss Margaret A. Ross of Toronto, Ontario, July 30.

HARPER W. ROBERTSON, M.D., Waelder, Texas, to Miss Lone Lynch, at her home near Thompsonville, Texas, July 27.

ROY KENEY BELDEN, M.D., Oakland, Cal., to Miss Helen Helft of Berlin, Germany, in London, England, July 12.

EDWARD T. HARGRAVE, M.D., U. S. M.-H. Service, Progreso, Mexico, to Miss Pearl Avery of North Carolina, at Norfolk, Va., July 29.

ERNEST MOSBY, M.D., New Hope, Augusta County, Va., to Miss Katherine W. Bell of Montgomery, Ala., at Staunton, Va., July 30.

Deaths and Obituaries.

Eugene Grissom, M.D. University of Pennsylvania, Philadelphia, 1858; sometime first vice-president of the American Medical Association, a member of its Judicial Council and also chairman of the Section of Medical Jurisprudence, Chemistry and Psychology, died, July 27, from cerebral hemorrhage due to a pistol-shot wound in head, self-inflicted, while suffering from paresis, aged 71. He was made vice-chairman of the Mental Disease Section of the International Medical Congress, in Philadelphia, in 1876. He was three times presiding officer of the Association of Medical Superintendents of American Institutions for the Insane and its president at the 1886 meeting. For twenty-one years (1868 to September, 1889) he was superintendent of the North Carolina Insane Asylum, Raleigh, his administration having been sustained by legislatures of both political parties. He was appointed by the North Carolina General Assembly a member of the Board of Public Charities in 1869, and in 1875 was elected by the same body as one of the board of commissioners to locate and construct an insane asylum in western North Carolina, which institution was erected near Morganton. While a member of the North Carolina Legislature for Granville County, to which he was elected from the army (1862-63 and 1864-65), he was appointed and served as Assistant Surgeon-General for North Carolina, with the rank of major. He was a member of the North Carolina State Medical Society and a fellow of the Raleigh Academy of Medicine and for several years was Surgeon-General of the North Carolina State Guard. He also practiced in his specialty in Colorado, where he removed in 1890. Failing in health he removed to Washington, D. C., to make his home with his son.

Prof. George Mann Richardson, head of the department of organic chemistry in the Leland Stanford University, California, died at the Union Protestant Infirmary, Baltimore, July 26, after a long illness from tuberculosis. He had been operated on three times with the hope of eradicating the disease. He was a native of Ohio, 38 years old, and was the author of two books on chemistry.

Carlo Imperatori, M.D. Bellevue Hospital Medical College, New York, 1874, a member of the Greater New York Medical Association, the New York County Medical Association, the New York State Medical Association, and the American Medical Association, died suddenly at his residence in New York City, July 24, from apoplexy, aged 69.

Jesse B. Losey, M.D. Castleton (Vt.) Medical College, 1857, for more than forty years a practitioner of Conesus Center, N. Y., died at his home in that place, August 5, aged 75. He served during the Civil war as surgeon of the Twenty-second New York Cavalry.

John O. Brown, M.D. Kentucky School of Medicine, Louisville, 1883, was found dead in his office in Minnewaukon, N. D., August 1. He was 44 years old, and his death was caused by an overdose of laudanum. He was a member of the American Medical Association.

A. Wilkes Smith, M.D. Hospital College of Medicine, Louisville, Ky., 1885, a prominent physician of Richmond, Ky., and a member of the American Medical Association, died at his home in Richmond, July 26, from heart disease after a prolonged illness.

Charles H. Yancey, M.D. Kentucky School of Medicine, Louisville, 1877, a well-known physician of Hannibal, Mo., who was obliged to give up practice in 1898 on account of ill health, died in Salt Lake City, Utah, July 26, aged 52.

J. Aubrey Davis, M.D. University of Pennsylvania, Philadelphia, 1887, assistant medical inspector in the Bureau of Health since 1892, died, July 30, at the University Hospital, Philadelphia, after an illness of three weeks, aged 37.

Thomas Christie, M.D. McGill Medical College, Montreal, 1848, for more than 25 years member of Parliament for Argenteuil, died at his home in Lachute, Quebec, August 5, from pneumonia, after an illness of one week, aged 78.

Abner M. Miller, M.D. Pennsylvania Medical College, Philadelphia, 1858, a member of the American Medical Association, who had practiced in Bird-in-Hand, Pa., for forty years, died July 28, from paralysis, aged 68.

Millard G. Hinkle, M.D. Jefferson Medical College, Philadelphia, 1896, a prominent physician of Seattle, died at Providence Hospital in that city, August 2, from typhoid fever, after an illness of six weeks, aged 30.

Frank H. Wilson, M.D. Wooster University, Cleveland, Ohio, 1872, an old practitioner of Jeromeville, Ohio, died at the residence of his brother in Ashland, Ohio, July 22, from **Bright's disease, aged 53.**

Charles L. Fawcett, M.D. Jefferson Medical College, Philadelphia, 1863, a well-known physician of Cleveland, Ohio, died at the home of his daughter in Monticello, Iowa, July 27, from pneumonia, aged 70.

Albert C. Fosdick, M.D., who has practiced in Indiana for more than fifty years, and served as surgeon and brigade surgeon throughout the Civil war, died at his home in Liberty, Ind., July 25.

William H. Klock, M.D. McGill University, Montreal, 1885, who also held degrees from the universities of Glasgow and Edinburgh, died at his home in Ottawa, Ontario, August 4, aged 41.

Francis T. Gorton, M.D. New York University, 1871, died at his home in Waterville, N. Y., where he had practiced for thirty years, July 28, from paralysis, after a long illness, aged 59.

Louis C. Haefele, M.D. Cleveland Medical College, 1896, formerly of Cleveland, died at his home in Dolores, Colo., July 28, from typhoid fever complicating pneumonia.

Leonidas C. Pollard, M.D. Jefferson Medical College, Philadelphia, 1858, died at his home near Point Eastern, Caroline County, Va., from paralysis, July 22.

Benjamin F. Shoemaker, M.D. University of Pennsylvania, Philadelphia, 1870, died at his residence in Brownsville, Pa., July 25, from blood-poisoning, aged 82.

William Minaker, M.D. College of Physicians, Edinburgh, 1875, died at his residence in Chicago, July 25, from abdominal cancer, after a lingering illness, aged 56.

George L. Ames, M.D. University of Maryland, Baltimore, 1889, died at Pungoteague, Accomac County, Eastern Shore, W. Va., July 28, after a short illness.

Alexander H. Colvard, M.D. Bellevue Hospital Medical College, New York, 1884, died at his home in Shawneetown, Ill., July 27, after a lingering illness.

Furman S. Hand, M.D. Rush Medical College, Chicago, 1880, died at his home in Wellington, Kan., from consumption, after a long illness, July 27, aged 45.

Nelson D. Clouser, M.D., one of the founders of the Blackford County (Ind.) Medical Society, died at his home in Hartford City, July 26, aged 84.

Rodolphe T. Etevard, M.D. St. Louis College of Physicians and Surgeons, 1889, died from apoplexy at his home in St. Louis, July 22, aged 38.

James Wallace, M.D., one of the oldest physicians of Scott County, Va., died at his home in Gate City, July 30, after a short illness, aged 75.

William W. Coggin, M.D. Medical College of Virginia, Richmond, 1861, died at his home in Ghent, Va., July 22, aged 67.

Atkinson Martin, M.D., died at his home in Stafford, Ohio, from acute intestinal disease, after an illness of two days, July 29.

Samuel P. Simpson, M.D. University of Nashville (Tenn.), 1858, died at his home in Paducah, Ky., July 30, from cancer, aged 65.

William N. Van Camp, M.D., a retired physician of Grape Creek, Ill., died in South Danville, Ill., July 31, aged 70.

Miscellany.

Beri-Beri Report.

At a meeting of the Norwegian Scientific and Literary Society in Christiania, May 30, Professor Uchermann gave an account of the results of the investigations of the committee appointed for the consideration of beri-beri, and showed that the problem has been solved as far as possible until the poison itself is determined.

The Professor briefly noticed the distribution of the disease, its pathologic anatomy and the supposed causes, which might be classed under the two heads, indirect or disposing and direct or initiating, both, however, being equally doubtful and unproved. He then mentioned the various theories founded thereon, the most important of which were the following:

1. An infectious disease due to a specific microbe.

2. A constitutional disease due to inadequate or physiologically insufficient food, especially the want of azote (albuminates) and fat.

3. Due to an intoxication through the food, some considering it a rice intoxication, others a fish intoxication, those articles undergoing chemical changes, possibly through the action of micro-organisms. Others consider it an auto-intoxication, the ptomains of the food and of the intestinal canal being absorbed; while yet others think it an intoxication due to the presence of inorganic poisons, especially arsenic, in the food.

None of these theories explain in a satisfactory way the appearance, in late years, of the disease in Europe and especially on European sailing ships, Norwegian among the number. There has not hitherto been placed before the public any joint material from which to judge of the causes of ship beri-beri, but only isolated cases that have been criticised from the standpoint of the more varied experience drawn from India, Japan and Java.

The material before the committee was based on the replies to certain questions made through consuls or received by members of the committee from master mariners and sailors, the information being obtained from 104 ships in all. These facts enable one for the first time critically to weigh the various views that can be entertained concerning the causes of ship beri-beri. It is evident:

1. That the general opinion, in dating the appearance of beri-beri on Norwegian ships to the last decade of the late century and its especial prevalence after the year 1895, is correct.

2. That the Norwegian ships and, as far as the small number allows one to draw a conclusion, Scandinavian and Finish ships are most attacked. The German ships come next in the proportion of cases, while the English suffer very little.

3. That the disease appears to be most common on sailing ships. Of the 104 ships attacked there was but 1 steamer and that had 1 patient.

4. That the great majority of opinions expressed tend to the belief that inadequate food, and especially much tinned food, directly produces beri-beri, or indirectly furthers it.

5. That the drinking water can not be the cause of it.

6. That the disease has appeared on ships where rice has neither been used nor has been on board at all.

7. That the partaking of tinned food is not necessarily followed by an appearance of want of nourishment in the patient.

8. That lime juice is not a sure prophylactic against beri-beri, though it may exercise a certain preventive influence against the disease or, occasionally, a favorable influence on its course.

9. That the foregoing conclusion holds good also with regard to fruit and fresh vegetables, especially potatoes.

10. That beri-beri appears on sailing ships on long voyages, though they have departed from a region free from beri-beri (this was the case with 10 ships), and though the disease has not previously appeared on board, nor the crew previously had the disease.

11. That there is no indication of any rule for the time of the incubation of the disease, such time varying from the first to the one hundred and twentieth day after leaving port.

12. That the hydropic form of the disease is the most common in the ships (only 3 or 4 cases of the atrophic form are mentioned) while in Japan it hardly amounts to one-half the cases.

13. That the disease is afebrile.

14. That animals are also attacked.

15. That in several cases vomiting appears at the very beginning of the disease, but stops immediately the patients come on board another ship and get different food.

16. That, generally speaking, fresh provisions, in the form of meat, fruit and fresh vegetables in a short time cure the disease, in the vast majority of cases, when it is not too far advanced.

17. That symptoms resembling scurvy do not appear.

After a critical examination of the theories Professor Uchermann thus concludes: Beri-beri is the oriental name of multiple neuritis and is due to a toxin intoxication by tainted vegetable or animal food. The vegetable form closely corresponds with the Asiatic beri-beri and is usually owing to the eating of tainted rice. The animal form corresponds particularly with the beri-beri which appears on European sailing ships and is due chiefly to the eating of tainted tinned food. One may indeed suppose that the beri-beri poison may appear not only in vegetable but also in animal nitrogenous foodstuffs that are or have been undergoing decomposition of a microbic nature as yet undecided. These microbes are probably not specific and in all likelihood are different in the animal and vegetable forms of the disease. Nor need the poisons themselves from a theoretical point of view be absolutely identical in both forms even if they are in all probability homogeneous and in some degree isodynamic. As to the importance of lime juice, potatoes, etc., it may be supposed that the vegetable acids contained in these articles of food enter into compounds with the toxins, generally basic, rendering them innocuous or making them more easily secreted.

In accordance with these conclusions the committee advises:

1. A restriction in the use of tinned food (according to French investigations of the various kinds of tinned food from 70 to 80 per cent. contain viable microbes).

2. That fat be made a component part, even if a limited part, in the scale of diet in warm climates.

3. That potatoes and fresh vegetables be produced for the whole voyage, ships being provided with a better system of preserving these articles.

4. That fresh fruit and fresh provisions be used during the stay in port.

5. That on long voyages the quantity of sugar and dried fruit be increased.

6. That on long voyages the use of a water filter (Chamberland-Pasteur) be enjoined.

In addition, careful directions are given as to the quality, purchase, preservation and final packing of the provisions (the food being inspected when purchased and afterwards once a fortnight) and directions concerning how one ought to act should beri-beri, scurvy or similar food diseases appear at sea (the nearest port to be sought). Finally, lime juice is enjoined on voyages south of 33 degrees north if the potatoes run short.

Hospital Attendants—Good or Bad?—Some years ago the Illinois State Board of Charities made an inquiry as to the hours, wages, and training of attendants. The replies of fifty-eight superintendents of state institutions are of interest in this connection. . . . The report says:

> The general monthly wage for a working-day of sixteen hours is from eighteen to thirty dollars per month for men, from twelve to twenty-five dollars for women. It will be remembered that the State of Illinois considers eight hours a working-day for clerks and others whose employment does not carry with it any great responsibility.
>
> On the other hand, it is, so far as the board knows, universally admitted that no work is more exhausting to the nervous system than caring for the insane. It requires a disciplined mind and a high character to bear calmly and patiently with the violent or annoying conduct of many insane patients, and to regard all their unreason and extravagance as symptoms of a disease, no more to be resented than a rise of temperature in fever. Ought the state to expect to obtain such qualifications when the hours are twice the legal working-day, and the compensation no better than that of city house servants?

The task of the physician in the insane hospital, disheartening at best, is rendered absolutely hopeless in crowded wards where overworked, under-trained, under-paid attendants remain almost as closely imprisoned as their charges. . . . It must be remembered that these hours and these conditions are not continued for a few weeks merely, during the stress of an acute case of illness, but that they are maintained steadily year after year. Is it surprising that the life in the wards for patients and attendants alike becomes monotonous and stupid? Is it surprising that overworked attendants, having picked out the patients who will most docilely perform the tasks of the ward or of the workroom, keep these few continuously employed and leave the others without stimulus, to sit dull and steadily duller along the wall? With the lack of thorough, modern medical supervision too often noticeable in our institutions is it surprising that the attendants come to regard their charges as a mischievous flock, to be kept in an externally clean and orderly condition with the least necessary exertion and without consideration of individuals? . . . There are excellent training-schools in a few hospitals for the insane, but it is also true that there are far more institutions which offer no pretence of training, and where the work is chiefly done by ignorant young men and girls at day laborers' and housemaids' wages, and where the presence of a trained nurse even in the infirmary wards is unknown. I am sure that the entire force of nurses and attendants should be under the direct charge of trained nurses who have had not only the training of a general hospital, but special training in hospitals for the insane. The insane hospital training-school could then be made more efficient and the service classified so as to render it more attractive to intelligent young persons and more useful to the institution. The service would and should cost more than at present, but it would justify itself to the public, and I have never seen an institution where the added cost could not be saved by other economies without injury to the patients. . . . These wards, filled with people stricken with an ailment which for the most part baffles medical skill, with no trace of family surroundings, without the nursing atmosphere of the general hospital—the care bestowed *en bloc*, yet perhaps every patient locked within them susceptible to some stimulus of human interest and personal attention—does not the situation appeal to the humane intelligence which has rescued the care of the bodily ill from Sairy Gamp?—Julia C. Lathrop in *American Journal of Nursing*.

Centenary of Internes.—At the Hôtel Dieu in Paris there has recently been celebrated the centenary of establishment of interneship upon a competitive basis in that institution. The Hôtel Dieu probably is the oldest hospital in the world; it is said to have been founded in the seventh century. For hundreds of years medical officers have been resident there, in the 17th century being known as "companion surgeons." Before 1802 the offices were all held by direct appointment and, of course, favoritism held full sway. At that time, however, both externeships and interneships were permanently placed on a competitive basis, and it is this establishment of *concours* which has just been commemorated. In the court of honor of l'Hôtel Dieu an haut-relief monument by Puech, representing the operation of tracheotomy in a case of diphtheria, has been erected. The idea is to honor the heroism of the many internes who have given their lives in public service, who have died on the field of honor. The portrayal of the treatment of diphtheria is especially appropriate since it appears that this is the disease which has claimed most victims from among the internes. A medal also celebrating the event has been struck off, one side representing the interne pursuing studies at his desk and the other depicting the city of Paris, symbolized as a woman, confiding one of her children to the care of an interne.

Causation of Typhoid and Malarial Fevers.—Major Edward Champe Carter, Surgeon, U. S. Army, who was in charge of the Leiter U. S. A. General Hospital, Chickamauga, Ga., during the Spanish-American war, in a report made before the Association of Military Surgeons of the United States, summed up as follows:

1. That the waters of Crawfish Spring and of the Chickamauga River were contaminated.

2. That the contamination was greatest probably in the early part of July, 1898, due to storm water.

3. That flies contaminated the food. The flies were very numerous in the tents during the period of the rains.

4. That while typhoid fever generally exists near Chickamauga Park, it hardly arises to the dignity of an epidemic.

5. That many cases diagnosed malarial fever at Camp Thomas and among the rural population near Chickamauga were cases of typhoid fever with no malarial complication.

6. That malarial fever did exist to some extent at and near the general hospital at Crawfish Springs.

7. That malarial and typhoid fevers may co-exist in the same patient, but that this rarely occurs.

Another Sad Accident.—A Philadelphia widow sued an accident insurance company for $5000 damages, the amount of an accident policy she held on the life of her late husband. He had been very sick with typhoid fever or appendicitis, and during convalescence there came a strong desire for more substantial food, so he asked his wife to prepare some baked beans, of which he ate a great quantity. The postmortem showed that the beans had perforated the intestines. The widow holds that the fatal result may properly be termed an accident. This is not a fable invented to illustrate a late eminent and lamentable case. We find it related as a fact in the *Medical Examiner*.

Societies.

COMING MEETINGS.

Rhode Island Medical Society (quarterly meeting), Sept. 4, 1902.
Wyoming State Medical Society, Cheyenne, Sept. 9-10, 1902.
Medical Society of the State of Pennsylvania, Allentown, Sept. 16-18, 1902.
American Association of Obstetricians and Gynecologists, Washington, D. C., Sept. 16-18, 1902.
Medical Society of the Missouri Valley, Sioux City, Iowa, Sept. 18, 1902.
American Dermatological Association, Boston, Sept. 18-20, 1902.

Medical Society of the Missouri Valley.—This Society will hold its annual meeting at Sioux City, Iowa, September 18, under the presidency of Dr. Richard C. Moore, Omaha, Neb.

Lehigh Valley (Pa.) Medical Association.—This Association met at Paxinosa Inn, near Easton, July 10, and elected Dr. Edgar M. Green, Easton, president; Dr. Charles McIntyre, Easton, secretary, and Dr. Abraham Stout, Bethlehem, treasurer.

Wyoming County (N. Y.) Medical Association.—This Association, on July 11, elected the following officers: President, Dr. Philip S. Goodwin, Perry; vice-president, Dr. Lyman C. Broughton, Castile, and secretary and treasurer, Dr. L. Hayden Humphrey, Silver Springs.

Washington County (Texas) Medical Society.—This Society held an interesting session at Brenham, June 3. The Society adopted a constitution and by-laws which were made to conform to the requirements of the American Medical Association, with which this is affiliated.

Shelby County (Ky.) Medical Society—This Society held its annual election of officers at Shelbyville, July 14, with the following result: President, Dr. Curtis Austin, Bagdad; vice-president, Dr. William E. Morris, Southville, and secretary and treasurer, Dr. Thomas E. Bland, Shelbyville.

Richland County (Ill.) Medical Society.—The physicians of Richland County met at Olney, July 11, and organized this Society, with Dr. Alvis L. Ziliak, Olney, president; Dr. Elbert Rowland, Olney, vice-president; Dr. Monterville E. Poland, Calhoun, secretary, and Dr. James W. Spain, Olney, treasurer.

Winnebago County (Iowa) Medical Society.—This Society met at Forest City, May 15, and elected the following officers: President Charles E. Keeler, Lake Mills; vice-president, Dr. Peter H. Vesterborg, Forest City; secretary, Dr. Luther Wall, Leland, and treasurer, Dr. Gissle M. Lee, Thompson.

Windsor County (Vt.) Medical Society.—This Society was organized at a meeting held recently at White River Junction. The officers of the temporary organization are: President, Dr. Charles C. Smith, Gaysville; vice-president, Dr. Fred T. Kidder, Woodstock, and secretary and treasurer, Dr. Mark P. Stanley, White River Junction.

Boone County (Mo.) Medical Society.—The physicians of the county met at Columbia, July 28, and organized a Society, with the following officers: Dr. William H. Douglass, Columbia, president; Drs. A. W. McAlester and Ida M. Nulton, Columbia, vice-presidents; Dr. Joseph E. Thornton, Columbia, treasurer, and Dr. Robert S. Austin, Hallsville, secretary.

Rutland County (Vt.) Medical and Surgical Society.—The annual meeting of this Society was held at Rutland, July 15. Dr. James M. Hamilton, Rutland, was elected president; Dr. John W. Estabrooke, Brandon, vice-president; Dr. Alheric M. Bellerose, Rutland, secretary; Dr. Edward R. Clark, Castleton, treasurer, and Dr. Schuyler W. Hammond, Rutland, toastmaster.

White River Medical Association.—The seventeenth annual meeting of this Association was held at White River Junction, Vt., May 19. The officers elected for the ensuing year were: President, Dr. Howard N. Kingsford, Hanover, N. H.; vice-president, Dr. William D. Huntington, Rochester, Vt., and secretary and treasurer, Dr. Mark P. Stanley, White River Junction.

Association of Life Insurance Medical Directors of America.—This Association has been incorporated to operate in the United States, with the principal office in New York City. The directors are: Drs. Edward H. Hamill, Newark, N. J.; John W. Fisher, Milwaukee, Wis.; and Brandreth Symonds, Frank S. Grant, Edward Curtis, Granville M. White and Oscar H. Rogers, New York.

Western Pennsylvania Medical College Alumni Association.—The sixteenth annual meeting and banquet of this Association was held at Pittsburg, May 28. Officers chosen for the next year were: President, Dr. Samuel C. Milligan; vice-president, Dr. Thomas L. Disque; secretary, Dr. Edward Stieren; associate secretary, Dr. D. I. Jamison; and treasurer, Dr. Carl H. Hitzrot, all of Pittsburg.

Wood County (Ohio) Medical Society.—This Society reorganized at Bowling Green, July 5, under the constitution and by-laws of the state association. The newly-elected officers are: President, Dr. Isaac S. Bowers, Perrysburg; vice-presidents, Drs. Willis M. Tuller and W. L. Matthers, Bowling Green; secretary, Dr. Frank D. Halleck, Bowling Green, and treasurer, Dr. Byron S. Cranston, Rudolph.

Warren County (N. J.) Medical Society.—At the seventy-sixth annual meeting of the medical society for the county, held recently at Belvidere, officers were elected as follows: President, Dr. F. J. LaRiew, Asbury; vice-president, Dr. Charles M. Williams, Washington; secretary, Dr. William J. Burd, Belvidere; treasurer, Dr. William H. McGee, Belvidere, and reporter, Dr. John H. Griffith, Phillipsburg.

West Tennessee Medical and Surgical Association.—This body held its annual convention at Jackson, May 22 and 23. The following are the officers elected: President, Dr. James S. Rawlings, Daneyville; vice-presidents, Drs. Frank D. Smythe, Memphis, and John H. Blackmon, Medina, and secretary and treasurer, Dr. Isaac A. McSwain, Paris. The next meeting will be held at Jackson in May, 1903.

South Dakota State Medical Society.—The twenty-first annual meeting of this Society was held in Scotland, June 4 and 5. The following officers were elected: President, Dr. John O. Duguid, Springfield; vice-presidents, Drs. Byron A. Bobb, Mitchell, and Charles B. Mallery, Aberdeen; secretary-treasurer, Dr. James L. Stewart, Irene, and assistant secretary-treasurer, Dr. Rodell C. Warne, Mitchell. The 1903 meeting will be held in Mitchell.

Woman's Medical College (Chicago) Alumnae Association.—At the twenty-second annual meeting of the Association at the Sherman House, June 19, a committee was appointed to obtain President James' consent and help in reestablishing a medical school for women. The officers elected were: President, Dr. Sarah Hackett Stevenson; vice-presidents, Drs. Ingeborg Rasmussen and Susan Orton; secretary, Dr. Eliza H. Root, and treasurer, Dr. Mary C. Hollister, all of Chicago.

Massachusetts Medical Society.—The one hundred and twenty-first meeting of this Society was held in Boston, June 10 and 11. Dr. George E. Francis, Worcester, was elected president; Dr. Stephen W. Hayes, New Bedford, vice-president; Dr. Edward M. Buckingham, Boston, treasurer; Dr. Charles W. Swan, Brookline, corresponding secretary; Dr. Francis W. Goss, Boston, recording secretary, and Edwin H. Brigham, Boston, librarian. Dr. Willard S. Everett, Hyde Park, delivered the annual address.

Kaufman County (Texas) Medical Society.—The physicians of Kaufman County met at Kaufman, July 21, and organized this Society. The organization was made in conformity to the requirement of the state association and the American Medical Association. Dr. Burrel J. Hubbard, Kaufman, presided. The first business transacted after temporary organization was the admission of the members of the Terrell Medical Society to full membership without payment of the initiation fee. A constitution and set of by-laws were adopted. Dr. William H. Monday of Terrell was elected president; Dr. Burrel J. Hubbard of Kaufman, first vice-president; Dr. William A. Watkins, Kemp, second vice-president; Dr. D. H. Hudgins, Forney, third vice-president; Dr. Willis J. Pollard, Kaufman, secretary, and Dr. Delana P. Hicks, Kaufman, treasurer.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Tuesday, July 8, 1902.

President, Dr. Wendell Reber, in the Chair.

Some Unappreciated Causes of Anemia in Childhood.

DR. WILLIAM C. HOLLOPETER commented on the fact that the period of primary dentition was often a time of ill-health, complicated by improper food, sooner or later resulting in disturbance of the child's blood, producing marked anemia. After brief reference to the anemias of acute diseases and specific blood changes, the author stated that he believed dental decay, with consequent pus formation and septic involvement of the alimentary tract, was the foremost cause of anemia in children and most frequently overlooked by the general practitioner, although it is pretty generally recognized by the pediatrist. The care of the first teeth is too often neglected, resulting in hyperemia of the aural cavity, with numerous alveolar abscesses and the consequent passage of pus into the stomach. With the teeth in this condition, proper mastication is impossible, and this results in derangement of the gastro-intestinal tract and general catarrhal inflammation, producing irritability and laying a foundation for anemia that may require years of correct living to correct. The difficulty of curing chronic gastro-intestinal catarrh was discussed and the necessity of preventing this condition emphasized. This can only be accomplished by much medication, careful regulation of the diet and regime and careful toilet of the teeth. The period of second dentition is a time of great importance, as the nervous system is then unstable and particularly liable to be affected.

Among the conditions remarked as a result of the neglect of the teeth were stomatitis, ulceration, sloughings, gangrene, pyorrhea alveolaris, periostitis, alveolar abscesses, necrosis, recurrent tonsillitis, pharyngeal otitis, glandular inflammation, cellulitis and possibly meningitis. The opinion of a former coroner of this city that 50 per cent. of all deaths in children coming under his observation were due to aural sepsis was quoted.

A second frequently unrecognized factor is mouth-breathing, due to nasal stenosis following whooping cough, measles, influenza, resulting in catarrhal inflammations and hypertrophied turbinated tissue, serving to block the channel, which is indicated by the characteristic facies due to a deficiency of oxygen and causing anemia. The value of careful toilet of the nose and throat during the disease in order to prevent these conditions was remarked.

As a third causative factor was mentioned eye-strain, especially during school life, which is often due to poor print and defective light and ventilation. Many of the conditions of so-called headache, catarrh of the stomach and nausea are really due to eye-strain and the reason better results in treatment are not secured is owing to the fact that therapeutic measures are directed to the manifest symptoms, while the real cause of the condition is unsuspected. In concluding, the author stated that he believed asepsis of the mouth was of as much importance to the physician as was asepsis to the surgeon.

DISCUSSION.

DR. EDWIN E. GRAHAM, in opening the discussion, stated that in considering anemia in children, we should take into consideration the fact the composition of the blood in childhood is very different from its composition in the adult, the proportion of the white blood corpuscles in the former being far in excess of that in the latter. It was also believed that in anemia there were substances in the blood intimately associated with many of the diseases. While splenic enlargement is an important factor in the diagnosis of anemia in the adult, cases have been observed in which this organ was markedly increased in size in children, yet where the anemia was only moderate. Almost any disease can produce a certain amount of secondary anemia in a child, and this he attributed mainly to two causes: decrease in the production of blood, caused by poor food, improper hygiene and poor assimilation; and increased destruction of the blood cells. The latter factor is particularly exemplified in nephritis, diphtheria, tuberculosis and cases of chronic suppuration and effusion, especially pleural effusions, and he cited a case in which three pints of pus had been removed by means of the aspirator, and the anemia was as marked as in a case of pernicious anemia. In such cases the hemoglobin is proportionately reduced as compared with the red blood cells, and in some cases the reduction is excessive, and leucocytosis may or may not be present.

It is important to treat rather the cause of the disease than the disease per se, and prophylactic measures, such as correct hygiene and diet, to prevent the development of the cause, were recommended. Iron and arsenic were regarded as the most valuable drugs. The prognosis was felt to depend on the age of the child and the cause; the younger the child, the graver the prognosis. While dentition per se was not regarded as a very important factor in the production of anemia, the escape of pus into the stomach from the gastro-intestinal tract and the consequent irritation of the latter will account for a considerable proportion of the cases.

DR. EDGAR W. TULLY emphasized the value of discovering and treating the cause of the anemia, rather than the manifest symptoms, and stated that he believed in many cases there were multiple causes. Among the causative factors were mentioned adherent prepuce, dentition and eye-strain.

DR. HOWARD S. KINNE felt that while no doubt anemia was frequently caused by catarrhal conditions, it was highly probable that, in a certain proportion of the cases, the order was reversed and the anemia acted as the inducing agent in producing the catarrh. Iron was thought to be indicated and he believed peptomanganate of iron to be the preferable method of administration, in point of palatability and efficiency.

DR. DANIEL LONGAKER felt that the escape of illuminating gas from the mains might be responsible for a certain proportion of the anemic cases.

DR. SAMUEL WOLFE, while he recognized the value of proper preservation of the teeth, and felt that carious teeth and bad hygienic oral conditions were no doubt responsible for some of the anemias in childhood, still believed that in many instances an impaired and defective condition of the blood resulting from heredity or other cause often led to decay of the second teeth. He felt that while proper hygiene of the mouth and teeth would prevent a portion of the vicious circle, we must go deeper into the causation of the condition in order to bring about a rapid cure, particularly in cases resulting from eye-strain, phimosis, and defective nutrition and metabolism. This fact was substantiated by the frequent occurrence of anemia in children with defective vitality and weakened conditions. Malaria was also felt to be a frequent cause and should be considered in all cases.

DR. H. BROOKER MILLS believed faulty dentition as a cause of anemia should be divided into three classes: absorption of pus due to suppuration of the gums; indigestion due to insufficient mastication, which is in turn due to bad teeth; and, indigestion due to insufficient mastication, when the teeth are good. He felt that the larger proportion of the cases came under the latter class. A case was cited in which the patient had died of auto-intoxication due to constipation, attributed to indigestion due to faulty dentition or rather improper use of the teeth, which were in good condition. Another case was noted in which gradual bleeding from the gums—presumably due to some purpuric condition—produced very profound anemia finally resulting fatally. Eye-strain and mouth-breathing were regarded as frequent causes of anemia, and in many instances correction of these conditions had relieved the other symptoms.

DR. CARLE LEE FELT believed that obstructed nasal breathing played an important part in the production of anemia and that while in many cases operated on for adenoids no adenoids were found, the anemic condition of the patient was markedly improved by the removal of the hypertrophied tissues. Faulty dentition and carious teeth also play important rôles in this direction, and in the majority of cases the anemia is aggravated by the poor hygienic and dietetic surroundings.

DR. WILLIAM H. GOOD felt that fermentation going on in the mouth caused by constant eating, especially of sweets, was

responsible for the production of a certain amount of the dental caries, and that if this dietary indiscretion were corrected, the formation of the conditions in the mouth and gastrointestinal tract would be prevented.

DR. WENDELL REBER, while he did not feel that eye-strain was responsible for the proportion of secondary anemias sometimes accredited to it, still believed that in children with weak visual apparatus subjected to the conditions present in the ordinary schoolroom, secondary symptoms, such as headache, nausea, dizziness and vicious appetite, are apt to be produced. These frequently occur in conjunction with anemia and the correction of the ocular condition often will be followed by a disappearance of the other symptoms.

DR. HOLLOPETER, in closing, stated that he had in mind dental caries in relation to second dentition, rather than to primary dentition as a causative factor of anemia, and he also felt that neglect to use the teeth was probably a more important point than had been generally recognized.

WASHINGTON STATE MEDICAL SOCIETY.

Annual Meeting, held in Tacoma, June 24 to 26, 1902.

President, Dr. J. W. Bean, Ellensburg, in the Chair.

Reorganization.

Among the important measures passed by the society was the adoption of the new constitution in conformity with the plans of the American Medical Association. By virtue of this, every member of a county medical society in good standing becomes a member of the state society. The county society is made the unit of the state and national societies, and is the sole adjudicator of qualifications for membership, there being no appeal from its decision (this last detail being a variation from the plan of the American Medical Association). The school of graduation is no bar to membership in the state medical society provided the applicant does not claim to practice any exclusive system of medicine.

Visitors.

Among the visitors from a distance were Dr. Simon Flexner, Philadelphia, who read papers on "Bubonic Plague," "The Pathology of Diphtheria," and "Contagion and Contagious Diseases"; Dr. J. Clarence Webster, Chicago, who presented a thesis on "Puerperal Infection," and Dr. John M. Dodson, Chicago.

President's Address.

In his address the President stated in regard to the questions of quacks and blackmailers as follows:

"In certain parts of this state the illegal practitioner of medicine still flourishes, notwithstanding the fact that we have reasonably rigid medical laws. The trouble lies not in our laws, but in the difficulty of enforcing them. Individual effort is of but little avail. The ordinary medical man dislikes the notoriety that usually follows a prosecution of these charlatans in our courts and this unsought-for notoriety renders the task of prosecution so odious that most legal practitioners prefer to allow these impostors to continue undisturbed rather than themselves go into court as prosecuting witnesses. The duties of our state board of medical examiners are already exacting and they should not be expected or required to assume this additional duty. To my mind the proper body to look after this is the state medical society.

"The question of an organized medical defense in suits for alleged malpractice is also another one that this society may consider with propriety. To defend such a suit entails a heavy expense on the individual physician. To compromise such a suit, which may often be done for a small fraction of the cost of properly defending it, encourages others to try the same blackmailing scheme. In this way some of our best physicians and especially surgeons have been greatly annoyed and a few seriously injured during recent years. It is claimed that if a physician compromises such a suit a positive injury is done, not only to himself, but to the medical profession as a whole. If, therefore, the results of these suits are something that effect the many, then it is perfectly proper that the many should step in and defend them. It seems, moreover, that this plan should be the most successful in dealing with the evil.

"When the blackmailers find they must deal with the physicians of the entire state as an organized body, they will not be so ready to enter the fray themselves, nor will they be encouraged to such an extent by unscrupulous lawyers who are ever ready to accept these cases on a contingent fee."

Election of Officers.

The following officers were chosen for the ensuing year: President, Dr. Charles McCutcheon, Tacoma; vice-presidents, Drs. George W. Libby, Spokane, and A. E. Stuht, Colfax; secretary, Dr. Arthur H. Coe, Spokane, and treasurer, Dr. James B. Eagleson, Seattle.

The society will meet in Spokane in 1903.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Chronic Gastric Catarrh.

G. Bjorkman of Milwaukee, in *Merck's Archives*, states that bitter tonics may be of service in the treatment of chronic gastric catarrh by benefiting the digestion. They should always be given a half hour before meals. The following are recommended by him:

℞.	Ext. nucis vomicæ	gr. iiss	15
	Pulv. rhei rad.	ʒss	2
	Pulv. aromatici	gr. xlv	3

M. Ft. cap. No. xxx. Sig.: Two capsules before each meal; or:

℞.	Bismuthi subnit.		
	Magnes. carb.		
	Sacch. alb., āā	gr. vi	35
	Pulv. nucis vom.	gr. i	06
	Morphinæ muriatis	gr. 1/15	004

M. Ft. cap. No. xv. Sig.: One before each meal. If pain accompanies the gastric catarrh the following is of service:

℞.	Aq. laurocerasi	ʒiiss	10
	Tinct. belladonnæ	gtt. x	65

M. Sig.: Ten drops three or four times a day; or:

℞.	Dionin	gr. iii	20
	Ext. cannabis ind.	gr. ii	12
	Ext. gentianæ q. s.		

M. Ft. pillulæ No. xii. Sig.: One pill three times a day.

Granular Pharyngitis.

M. Moure, in *Presse Méd.*, recommends the following in the treatment of granular pharyngitis:

℞.	Iodi	gr. iiiss	20
	Pot. iodidi	gr. ivss	25
	Tinct. opii	m. xlv	3
	Glycerini	ʒiv	120

M. Sig.: Apply locally with a swab to the back of the throat two or three times a week.

The following is also recommended to be used similarly, or as a gargle:

℞.	Sodii biboratis	ʒiss	6
	Antipyrini	ʒi	4
	Tinct. guaiaci		
	Spts. menth. pip., āā	m. lxxv	5
	Glycerini (neutral)	ʒivss	140

M. Sig.: To be used locally or as a gargle.

Compound Pyrogallol Ointment.

The following combination, as stated by the *N. Y. Med. Jour.*, is recommended as a soothing application against the irritation of psoriasis, eczema, etc.:

℞.	Acidi salicylici	ʒss	2
	Acidi pyrogallici		
	Ichthyol, āā	gr. lxxv	5
	Vaselini albi	ʒiii	90

M. Ft. unguentum. Sig.: Apply locally once or twice daily.

Proctitis.

Samuel G. Gant, in the *Post-graduate*, divides the treatment of chronic proctitis into palliative and surgical. The palliative treatment consists in the removal of any irritating disease or foreign body in the colon or rectum which tends to aggravate or prolong the inflammation. Antiseptic, stimulating and cleansing remedies should then be applied to reduce the inflammatory process. The diet should consist principally of eggs, milk, cream, nourishing soups, broiled steak, baked potatoes, matzoon and koumiss. Fruits and vegetables may be taken in limited quantities, except when the stools are too frequent. As intestinal antiseptics the following are recommended by the author:

℞ Pot. permanganatis ..... gr. i |06
Sodii sulphocarbol ..... gr. v |30

M. Fiat capsula No. i. Sig.: One such capsule three times a day one hour after meals. The capsule should have an enteric coating to render it insoluble in the acid secretions of the stomach; or:

℞ Betanaphthol ..... ℥ii 8|
Bismuthi salicylatis ..... ℥ii 8|

M. et div. in chart. No. xxx. Sig.: From three to twelve powders in twenty-four hours; or:

℞ Salol |
Bismuthi salicyl., āā ..... ℥iiss 10|

M. Ft. chart. No. xxx. Sig.: One powder three times a day before meals.

When laxatives are necessary the salines are of benefit. Strong purgatives are contraindicated.

To reduce the inflammation and encourage the healing of ulcers the greatest benefit is derived from semi-weekly enemata composed as follows:

℞ Argenti nitratis ..... gr. xl 2|65
Aquæ ..... Oi 480|

M. Sig.: To be used as a local enema twice a week. If this should cause pain the rectum should be immediately irrigated with a physiologic salt solution.

Where the ulcers are stubborn to treatment the mucosa may be mopped frequently with the following:

℞ Bismuthi subnit. ..... ℥ss 2|
Balsami Peru. ..... ℥i 30|

M. Sig.: To be applied locally. A 10 per cent. solution of ichthyol may be substituted for the foregoing.

Matthews recommends the following for such purposes:

℞ Bismuthi subnit. ..... ℥ss 15|
Iodoformi ..... ℥ss 2|
Olei olivæ ..... ℥iii 90|

M. Ft. emulsio. Sig.: To be used as a rectal injection.

Seasickness.

C. V. Wild, as noted in the *Interstate Med. Jour.*, recommends the following to prevent seasickness:

℞ Orexin tannatis ..... gr. viii |50

Sig.: To be taken in half a pint of milk, tea or bouillon three hours before the ship sails and two hours later a plentiful meal is to be taken. He concludes that if the foregoing is taken as prescribed that the patient will be free from illness for several days and that the illness is not prevented if taken in any other manner. He emphasizes the importance of the heavy meal.

Croup.

Dr. L. Boyer, according to *Merck's Archives*, recommends a method to be used in the treatment of croup which he states he has employed with uniform success for the last four years:

℞ Hydrarg. chloridi mitis ..... gr. iii |20
Sacchari albi ..... ℥ss 2|

M. Ft. chart. No. viii. Sig.: One powder every two hours.

The foregoing is to be alternated with the following:

℞ Apomophinæ hydrochlor. ..... gr. 1/6 |01
Acidi hydrochlor. dil. ..... m. ii |12
Syrupi simplicis ..... ℥ii 8|
Aq. destil. ..... ℥iiiss 105|

M. Sig.: One teaspoonful to a dessertspoonful every two hours.

The two remedies are given alternately every two hours so that the patient gets calomel one hour and apomorphin the next. For children under two years the dose of calomel is reduced to one-sixth of a grain. Both prescriptions may be repeated, and in the author's cases more than two repetitions were never required. The calomel should be discontinued as soon as amelioration sets in lest untoward results appear.

Pemphigus.

J. V. Shoemaker, in the *Med. Bulletin*, states that pemphigus may occur at any age. Agencies producing an impoverished condition of the system generally precede this trouble. He has noticed it following alcoholism, excessive tobacco or cigarette smoking. Bright's disease, typhoid fever, etc. The curability of pemphigus, therefore, depends on the affection with which it is linked. There is consequently no specific remedy for this skin trouble, but arsenic is capable of producing marked amelioration in many cases. This preparation, however, is of benefit only in the chronic form of any skin disease which may be advantageously combined with strychnin and quinin. Lotions, ointments and dusting powders containing such agents as zinc oxid, carbonate or the oleate, alone or mixed with equal quantity of hamamelis, lead acetate, potassium chlorate, bismuth subnitrate or subcarbonate have been found most useful. Baths warm or tepid are of decided benefit, especially when there is much irritation of the skin and when the surface is covered with crusts. The following combinations, which may be varied to suit the individual case, are recommended by him:

℞ Strychninæ sulph. |
Acidi arsenosi, āā ..... gr. 1/40 |0015
Ferri pyrophosphatis ..... gr. i |06

M. Ft. pilula No. i. Sig.: Four such pills daily; or:

℞ Strychninæ sulph. ..... gr. i |06
Acidi hydrochlor. dil. ..... ℥iii 12|
Glycerini ..... ℥v 150|

M. Sig.: One teaspoonful in water after each meal.

For local application the following is of service:

℞ Ung. zinci oxidi |
Ung. aquæ rosæ, āā ..... ℥iv 16|
Acidi carbol. |
Chloralis hydratis, āā ..... gr. x |65

M. Ft. Unguentum. Sig.: Apply locally; or:

℞ Cocainæ hydrochlor. ..... gr. v |30
Acidi carbol. ..... m. xv 1|
Camphoræ ..... gr. x |65
Chloralis hydratis ..... gr. xv 1|

The last three preparations, when rubbed up together form a liquid which is then incorporated with the cocain and added to:

℞ Ung. plumbi subacet. |
Ung. zinci oxidi, āā ..... ℥ss 15|

M. Sig.: Apply locally.

Medicolegal.

Admissibility of Mortality Table.—The Supreme Court of Georgia holds, in Western & Atlantic Railroad Company vs. Cox, that it is not good objection to the admission in evidence of the Carlisle mortality table that the accuracy and correctness of the table have not been shown. This, being a standard table, is admissible in evidence, not as conclusive proof of the expectancy of life of a certain person, but as furnishing data which may be considered by the jury in determining such question when made.

Erroneous Opinion and Insane Delusion.—The Supreme Court of the United States says, in Hotema vs. United States, a case in which it affirms a conviction of an Indian of murder, that the subject of the distinction between a mere erroneous opinion and an insane delusion, the product of a diseased mind or brain, is a somewhat difficult one, and the line of distinction not always easily drawn, but it exists. In this case the trial court in its charge to the jury assumed that the accused might have formed an erroneous opinion regarding witches and witchcraft, and yet might not have been insane within the legal definition, and therefore, although possessing such erroneous ideas and acting on them, he might still be responsible criminally for his actions. And on the other hand, if his

opinion on the subject were the result of insane delusions, and he acted on them, he was irresponsible, and responsibility must be proved beyond a reasonable doubt. The Supreme Court thinks that this was all that he could require.

Cross Examination of Expert Witnesses.—The Supreme Court of Idaho says, in the personal injury case of McLean and wife vs. the City of Lewiston, that one of the assignments of error went to the right of counsel for the parties suing, on cross-examination of a medical witness, to make out his case by such cross-examination. It appeared that a physician was called as a medical expert on the part of the city, and on cross-examination a long hypothetical question was put to him which had been propounded to medical witnesses of the parties suing, and had been answered by them, and the answer of this witness corroborated the evidence of the experts of the parties suing, and served to strengthen it. But the court says that the parties suing did not rely on that cross-examination to make out their case. Under the law a liberal range is allowed in the cross-examination of expert witnesses; and the court does not think that error was committed in said matter. Hypothetical questions, it also holds, must be based on the facts admitted or established by the evidence or both.

Medical Attention for Transferred Jail Prisoners.—The Supreme Court of Georgia says, in Talbot County vs. Mansfield, that, under section 920 of the Penal Code, a person charged with crime may, under certain circumstances, be sent or committed to the jail of a county other than that in which the crime was committed, for safe-keeping. When this has been done, the person so committed is in the full care and custody of the county authorities which by statute have charge of the jail in which such person is confined, so long as he remains in such jail. An obligation is imposed by law on the county where the crime was committed, and from which such person was sent, to pay to the county in the jail of which he was confined all necessary jail fees, costs, etc., incurred in behalf of the prisoner, among which is necessary medical attention rendered to such prisoner; and if payment thereof is refused, or is not made, the county incurring such expense has a right of action against the county from which such prisoner was sent to recover the same. The law, however, creates no liability against the county from which the accused person was sent in favor of an individual who gave medical attention to such prisoner on the request of, and under a contract to do so made with, the keeper of the jail. A county is not liable to be sued unless liability is fixed, or the suit is authorized by statute.

Position of Physician for Poor and Hospital.—The Supreme Court of California says that the suit of People vs. Wheeler was to oust the latter from the office described in the complaint as that of "county physician," or, as otherwise described, "the office of hospital physician of Plumas County." He was a graduate in medicine, and was appointed by the board of supervisors under subdivision 5 of section 25 of the county government act of 1897 to attend to the indigent sick and dependent poor of the county, and to the patients in the county hospital. The ground of objection to his appointment was that he was an alien and therefore, under the provisions of section 841 of the Political Code, disqualified to hold office. The only question, therefore, in the case, the court says, was whether the position to which he was appointed was an office within the meaning of the term as used in the section of the Political Code cited. This question, the court thinks, must be answered in the negative. By the provisions of the act in question, the board of supervisors is authorized "to construct or lease, officer and maintain hospitals and poorhouses, or otherwise in their discretion provide for the care and maintenance of the indigent sick and dependent poor of the county"; and it is provided that "the board . . . shall appoint some suitable person to take care of and maintain such hospitals and poorhouses, and shall also appoint some suitable graduate or graduates in medicine to attend to such indigent sick and dependent poor, and to the patients in such hospitals and poorhouses." Under these provisions of the law, the court holds, it is within the power of the board to employ, not one physician only, but as many as the board in its discretion may deem necessary. Nor is the board limited to the appointment of a physician or physicians with more or less permanent tenure. It includes also the power to employ physicians for temporary purposes—as in case of epidemics—or to care for sick persons, outside the hospitals or poorhouses, who can not otherwise be cared for. It is clear, therefore—as also from the subordinate nature of their duties, and other circumstances—that the physicians employed must be regarded as merely the servants or employes of the board, to which, by the law, the general function of caring for the indigent sick is committed. There is nothing in the act under consideration to indicate an intention on the part of the legislature to create, or rather to provide for the creation of, an indefinite number of offices; and the contrary is indicated by the failure of the act to designate as officers the physicians employed, or to give them a distinctive name, or to fix their terms of office, or to prescribe their duties or compensations. It may be added, the court says, that, if the act could be thus construed, it would be clearly unconstitutional; for the effect of the act would then be to delegate to the board of supervisors the power to create an indefinite number of public offices, with varying duties and compensation; which can not be regarded as within the constitutional powers of the legislature. Still more obviously would this be the case if the supposed office be regarded as a county office, as, if an office at all, it should be. Wherefore, the court affirms a judgment entered for the physician on demurrer to the complaint.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

American Medicine (Philadelphia), August 2.

1 *The Principles Underlying the Repair of Cystocele and an Operation Founded Thereon. Edward Reynolds.
2 *The Significance of Post-Operative Pleurisy: Its Relation to Pulmonary Embolism. G. Brown Miller.
3 *A More Rational Method of Passing the Suture in Fixation of the Kidney. Max Brodel.
4 The Report of Two Interesting Cases of Foreign Body in the Stomach, with Remarks upon an Unusual Accident with the Stomach Tube. Julius Friedenwald.
5 Adenoma of the Nose, with Incipient Sarcomatous Metamorphosis. Emil Mayer.
6 *Diagnosis of Cancer of the Breast. Alfred Roulet.
7 *Intestinal Obstruction. Edward A. Balloch.
8 Surgical Observations in Berlin—Professor Hoffa's Orthopedic Work—Professor Sonnenburg and His Appendicitis Work at the Moabit Hospital. Nicholas Senn.

Boston Medical and Surgical Journal, July 31.

9 *Non-Operative Head Injuries; Diagnosis and Treatment. T. J. Robinson.
10 *Indications for Operation in Head Injuries. Edwin W. Dwight.
11 *Indications for Operation in Head Injuries. William N. Bullard.
12 Gunshot Wounds of the Head and Cranium. Louis A. La Garde.
13 Technique and After-Care of Operations upon the Cranium. Charles L. Scudder and Harry H. Hartwell.
14 Unusual Complications of Tabes. E. W. Taylor.

Medical News (N. Y.), August 2.

15 *Carcinoma Limited to the Appendix Vermiformis; Discussion of Its Origin and Its Relation to Appendicitis. Richard H. Harte and Robert N. Willson.
16 *Anuria; Clinical Memoranda in the Observation of a Case. Alexis V. Moschcoqitz.
17 Dextrocardia Due to Pulmonary Cirrhosis, with Presentation of a Case. Henry Levien.
18 *The Modern Treatment of Pterygium. F. B. Loring.
19 Report of a Case of Grave Anemia. J. S. Triplett.

New York Medical Journal, August 2.

20 *Inflammation Within the Female Pelvis and Its Treatment. Neil Macphatter.
21 *Further Observations Regarding the Malarial Origin of Zoster. James M. Winfield.
22 *Some of the Therapeutic Uses of the X-Ray. E. D. Bondurant.
23 A Case of Foreign Body in the Male Urethra. J. Edward Herman.

Medical Record (N. Y.), August 2.

24 *Diet, Drugs, and Diagnosis in Typhoid Fever. Charles H. Lewis.
25 *Summer Disorders, Dietetic Management and Milk Substitutes in Children. Louis Fischer.
26 *Causes of Cancer. Robert Reyburn.

27 Hunchback: Rectifying of Spinal Deformity by Forcible Traction; Immediate Straightening. J. V. Young.
28 Diagnosis of Incipient Carcinoma of the Endometrium. J. A. Schmitt.

Philadelphia Medical Journal, August 2.

29 The Proposed Location for the Municipal Hospital of Philadelphia. Henry Leffmann.
30 A Case of Albumosuria of the Pernicious Anemia Type. Herman F. Vickery.
31 *Cocain as a Thermogenic: Its Modes of Action. Edward T. Reichert.
32 The Open-Air Treatment of Tuberculosis in the State Forest Reservations of Pennsylvania. J. T. Rothrock.
33 The Early Diagnosis and Treatment of Acute Mastoid Inflammation. T. H. Halsted.

Cincinnati Lancet-Clinic, July 26.

34 Some Interesting Cases of Rectal Disease. Louis J. Krouse.
35 State Medicine, Past, Present and Future. J. M. Emmert.
36 Surgical Melange. B. Merrill Ricketts.

August 2.

37 A Brief Résumé of the Treatment of Tuberculosis. George E. Malsbary.
38 *Epidermolysis Bullosa (Factitia). M. L. Heidingsfeld.
39 The Aid of Laboratory Work in the Diagnosis and Treatment of Gastritis. L. H. Warner.
40 Normal Salt Solution in Morphin Poisoning. H. V. Sweringen.

St. Louis Medical Review, August 2.

41 *Radical vs. Conservative Procedures in the Treatment of Inflammatory Affections of the Uterine Adnexa. J. J. Gurney Williams.
42 *A Few Remarks on Preceding Article. Hugh Ehrenfest.

Medical Age (Detroit, Mich.), July 25.

43 The Criminal Use of Chloroform. J. Howe Adams.
44 Appendicitis: A Series of Cases Operated Upon. T. J. Crofford.
45 Abdominal Palpation in Obstetrics. Frederick E. Clark.

Medical Practitioner and News (Louisville), July 1.

46 Dietetics. M. F. Coomes.
47 Convergent Concomitant Strabismus. (Concluded.) Benjamin L. W. Floyd.

Medical Fortnightly (St. Louis), July 25.

48 Some New Apparatus for the Re-Education of Ataxics. Andre Riche and Etienne de Gothard.
49 Complete Relief by the Bottini Operation in Cases of Long-Lasting Total Retention of Urine. Albert Freudenberg.
50 Psychology as Applied to Modern Medicine. G. H. Eiskamp.
51 Diseases of the Lungs and Pleura. (Continued.) Albert Abrams.

St. Paul Medical Journal, August.

52 Organization of the Medical Profession: Its Aims and Benefits. William A. Hall.
53 *Some Observations on Operations for Malignant Disease of the Mouth and Neck. George W. Crile.
54 *Treatment of Fractures and Injuries of the Elbow Joint. Arthur J. Gillette and John B. Brimhall.
55 Conservatism in Surgery. J. W. Andrews.
56 Intestinal Obstruction. H. C. Cooney.
57 Plaster of Paris Casts. C. A. Kelsey.
58 *More Care for Fractured Clavicles. T. J. Catlin.
59 The Obstetric Forceps: May We Not Safely Use Them in Every Case of Labor? Frederick Leavitt.
60 Foreign Bodies in the Noses of Children. J. W. Robertson.

Quarterly Journal of Inebriety (Hartford, Conn.), July.

61 The Relations of Alcohol and Alcoholic Liquors to the Economic, Sanitary and Moral Interests of the Human Family, and the True Principles of Legislation That Should Govern Their Use. N. S. Davis.
62 Baneful Effects of Alcoholic Medication, as Shown by Recent Experimental Observations. J. H. Kellogg.
63 The Tobacco Addiction. Dudley S. Reynolds.
64 The Relation between the Alcoholic Medication and Drug Addiction. David Paulson.
65 Alcoholic Psychoses, Clinical Aspects and Differential Diagnosis. Charles E. Stanley.
66 The Use of Alcohol in the Treatment of Acute Infectious Diseases. Henry F. Hewes.
67 Alcohol as a Predisposing and Exciting Cause of Disease and Crime. Henry D. Didama.
68 Alcohol a Cause of Degeneracy. T. A. MacNicholl.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), August.

69 Report of a Case of Dermatitis Verrucosa Probably Caused by the Bacillus Coli Communis. Henry G. Anthony.
70 *On Resorbin. Rheinhold Ledermann.

Louisville Monthly Journal of Medicine and Surgery, August.

71 Administration of Chloroform and Ether. R. Lindsey Ireland.
72 Trachoma. E. Kelley.
73 Treatment of Eclampsia. Howard Parker.
74 Teaching. W. Ed. Grant.

University of Pennsylvania Medical Bulletin (Philadelphia), July.

75 *Etiology of Post-Operative Femoral Thrombo-phlebitis. John G. Clark.
76 *A Study of Four Cases of Extrauterine Pregnancy, with Reference Especially to Their Etiology. Brooke M. Anspach.
77 Vaginal Incision: A Report of Twenty Cases Operated upon by This Method. C. C. Norris.
78 Treatment of Gonorrhea in the Female. W. B. Small.
79 Preliminary Anesthesia by Nitrous Oxid Gas; Report of 150 Cases by This Method Compared with 150 Cases of Plain Etherization. C. C. Norris.

American Medical Compend (Toledo, Ohio), August.

80 The Evolution of the Modern Trained Nurse. W. A. Dickey.
81 Foreign Bodies in the Uterus, with Report of a Case. W. J. Gillette.
82 Albuminuria in Pregnancy. E. M. Latham.
83 Menstruation at the Fifth Day. P. H. Strausz.

International Medical Magazine (N. Y.), July.

84 *Parapiegia from Pott's Disease. Arthur J. Gillette.
85 *The Operative Treatment of Tubercular Arthritis. Wisner R. Townsend.
86 Treatment of Tubercular Joint Affections by Apparatus. G. G. Davis.
87 The Early Symptoms and Diagnosis of Hip Disease. B. Brindley Eads.
88 The Cause and Prevention of Deformity and Disability in Tuberculosis. A. B. Judson.
89 The Treatment of Lumbar Spinal Abscesses. James K. Young.
90 The Treatment of Obesity Complicated by Diseases of the Circulatory Organs. Carl von Noorden.
91 Polyhydramnios: Its Differential Diagnosis and Treatment, with the Report of Cases. Edward P. Davis.
92 The Non-Surgical Treatment of Retro-Displacements. E. E. Montgomery.
93 Urea in Tuberculosis. Geo. O. Jarvis.
94 Constipation: From the Standpoint of a Proctologist. Collier F. Martin.

Laryngoscope (St. Louis), July.

95 Diseases of the Accessory Sinuses. Robert C. Myles.
96 Diseases o. the Ethmoidal Cells. Eugene L. Vansant.
97 The Sphenoidal Sinus. C. G. Coakley.
98 Empyema of the Antrum. C. M. Cobb.
99 On the Diagnosis and Treatment of the Diseases of the Frontal Sinus. Lewis A. Coffin.
100 The Technique of Frontal Sinus Operations, with Report of Three Cases Treated without Nasal Drainage. H. Holbrook Curtis.

Pennsylvania Medical Journal (Pittsburg), July.

101 *Anal Ulcers. W. L. Estes.
102 The Pollution of Streams, with Special Reference to the Monongahela River. C. B. Wood.
103 The Treatment of Typhoid Fever. Adolph Koenig.
104 The Surgical Treatment of Obstipation. William M. Beach.
105 *The Prevention of Diseases of the Nervous System. T. M. T. McKennan.
106 The Diagnosis of Diphtheria. Wm. V. Hazeltine.
107 Scarlet Fever. D. P. Miller.

Fort Wayne Medical Journal-Magazine, July.

108 Acute Lobar Pneumonia. E. H. Griswold.
109 Plea for Early Operation in Appendicitis. L. G. Bowers.

Journal of Medical Research (Boston), June.

110 Three Gliomata of Ependymal Origin: Two in the Fourth Ventricle, One Subcutaneous Over the Coccyx. F. B. Mallory.
111 The Pathology of a Case of Poliencephalomyelitis. Alice Hamilton.
112 A Tumor-Like Lesion in the Lung of a Horse Caused by a Blastomyces (Torula). Langdon Frothingham.
113 *Further Investigations in Transplantation of Tumors. Leo Loeb.
114 On Tumor Transplantation and Inoculation. Maximilian Herzog.
115 *Persistence of Varieties of the Bacillus Diphtheriæ and of Diphtheria-Like Bacilli. Anna W. Williams.
116 On the Growth of Epithelium in Agar and Blood-Serum in the the Living Body. Leo Loeb.
117 *The Influence of the Spleen on Natural or Acquired Hemolytic Properties of Blood-Serum. Isaac Levin.
118 Spindle-Shaped Dilatations and Tortuosity of the Ureters in the Fetus. C. A. Hamann.
119 *On the Occurrence of Carcinoma and Tuberculosis in the Same Organ or Tissue. Harris Moak.
120 New and Simple Media for the Differentiation of the Colonies of Typhoid, Colon and Allied Bacilli. Philip H. Hiss, Jr.
121 On the Bacteriologic Study of a Case of Paracolon Infection, Probably Secondary to Typhoid Fever, with Remarks on Serum Reactions in Paracolon Infections and on the Thread Reaction. E. Libman.
122 A Comparative Study of the Bacilli Intermediate between B. Coli Communis and B. Typhosus. B. X. Buxton.
123 Chemical Nature of the Bile After Choiecystotomy. A. E. Austin.
124 *Acid-Proof Bacilli in Five Cases of Pulmonary Gangrene. W. Ophüls.
125 *Trichinosis. Arthur K. Drake.
126 The Mode of Action of Various Laking Agents on the Blood Corpuscles. G. N. Stewart.

Southern Practitioner (Nashville, Tenn.), August.

127 Malaria. I. A. McSwain.

Canadian Practitioner and Review (Toronto), July.

128 *On the Classification of Tumors. J. George Adami.
129 Abductor Paralysis of the Larynx. D. J. Gibb Wishart.

Southern California Practitioner (Los Angeles), July.

130 Case of Croupous Pneumonia Terminating in Gangrene of the Lungs. F. W. Thomas.
131 On the Importance of Early Recognition and Treatment of Mastoiditis. E. W. Fleming.
132 The Mountains of Southern California. Walter Lindley.

133 Nephritis Puerperal Acutis. O. D. Fitz-Gerald.
134 Climatology in California. Alexander G. McAdie.

Medical Examiner and Practitioner (N. Y.), July.

135 The Selection, Supervision and Compensation of Medical Examiners. John L. Davis.
136 Infection of Wounds from the Standpoint of Insurance Against Accidents. E. Poels.
137 Cyclic Albuminuria. Wm. E. Huger.
138 *Leucorrhea. W. Gill Wylie.
139 Etiology and Symptomatology of Arteriosclerosis. Melite E. Chartier.
140 The Relation of Hydrothorax to Tuberculous Involvement of the Lungs and Pleura. C. H. Powell.

Canada Lancet (Toronto), July.

141 The Management of the Various Forms of Nasal Obstructions. Perry G. Goldsmith.
142 *Treatment of Results of Infantile Spinal Paralysis. Clarence L. Starr.
143 *Fractures of the Shaft of the Femur. Hadley Williams.
144 *Malignant Edema of Both Hands, Recovery without Amputation Due to the Constant Application of Acetozone. Murdoch Chisholm.

Kingston Medical Quarterly, July.

145 Pernicious Anemia. W. T. Connell.
146 Intravenous Infusion of Normal Salt Solution. C. A. Morrison.

Charlotte Medical Journal, July.

147 Treatment of Typhoid Fever. A. A. Kent.
148 Acute Anterior Poliomyelitis. E. D. Dixon Carroll.
149 Management of Smallpox Outbreak. P. J. Macon.
150 Perineal Lacerations—Their Prevention and the Necessity for Their Immediate Repair. E. A. Moye.
151 The Radical Cure of Hydrocele. Hubert A. Royster.
152 The Urine. F. O. Rogers.
153 The Doctor Pictured in Literature. Eug. B. Glenn.
154 A Case of Intraspinal Cocainization, with Unusual Features: Unilateral Anesthesia Only. Henry M. Tucker.
155 The Surgical Treatment of Chronic Ulcers. James M. Parrott.
156 Inebriety: the Necessity of Legal Adjudication and Restraint of Inebriates. Chas. Duffy.
157 Retention of Urine. A. J. Crowell.
158 Appendicitis: Its Diagnosis and Treatment. Francis J. Kirby.
159 Malarial Infection. E. G. Goodman.
160 Annual Oration, North Carolina Medical Society. John C. Rodman.
161 Creosote. J. B. Wright.
162 The Spirit of Commercialism in Modern Materia Medica and Therapeutics. B. R. Graham.
163 The Clinical Aspects Suggesting, or Indicating Cancer of Uterus. J. Ernest Stokes.
164 Report of Chairman of Medical Jurisprudence and State Medicine. J. L. Nicholson.
165 Further Observations on Ovarian Cysts in Colored Women. Hubert A. Royster.
166 The Doctor, the Patient: the Importance of Good Roads to Both. M. Eugene Street.

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1. **Cystocele.**—Reynolds finds that there are two anatomic points which underly success in operations for cystocele, and to call attention to these points and describe his operation is the object of his paper. The first point is that to attain success we should ascertain and utilize the natural supports of the anterior wall instead of simply denuding and gathering together the overstretched portions. 2. That we should not only avoid using any part of the overstretched portion of the wall, but should actually excise and do away with it. Both of these desiderata should be obtained without having an unnecessarily extensive or severe operation. The operation itself can not well be explained without reference to diagrams, which can not here be reproduced. It consists in excising the weakened tissue and suturing out in a sort of V-shape the anterior wall, shoving the cervix a little further back, and drawing it as a whole upward and forward behind the pubis in a way which offers a firm support for the base of the bladder. Six operations have been performed in this way, and in only one was the result unsatisfactory on account of suppuration and loss of union due to hurried operation.

2. **Post-Operative Pleurisy.**—The causes of post-operative pleurisy are noted by Miller, who gives the experience of the Johns Hopkins Hospital with this condition from 1890 to 1901. He finds the best explanation is the occurrence of pulmonary embolus causing hemorrhagic infarction in the lung not sufficient to cause death, but to produce subsequent pleurisy. He publishes eight cases in none of which was there postmortem proof of the condition, but the probability was very strong, and mentions several others from the literature. He thinks in many cases pleurisy from an apparently unknown cause is due to pulmonary embolism, especially the form that comes on after operation or labor, with shock, pain in the chest, dyspnea, if of limited extent and without known cause. In these cases we should bear in mind the possibility of further embolism which may be fatal, and take precautions to prevent any extra effort on the part of the patient until the danger is past.

3. **Fixation of the Kidney.**—Brödel recommends the method of fixation of the kidney by a triangular suture not parallel to the framework of the cortex, but at right angles to it and in such a manner as to leave two suture bridges on the kidney, which bear the brunt of the strain and traction, instead of being borne by the circulatory or secretory structures of the kidney. To make this suture tear out, the bridge must tear the fibrous capsule into the cortical substance of the kidney, a procedure requiring considerable force.

6. **Mammary Cancer.**—The various elements in the diagnosis of mammary cancer are noticed by Roulet, age, traumatism, eczema of the nipple, heredity and possibly cancer infection. The first symptom usually noticed by the patient is a hard indurated nodule in the breast, usually in the upper outer quadrant or immediately below the nipple. This is generally discovered by accident, there having developed no previous symptoms, though occasionally it is preceded by sharp stabbing pain. It is never distinctly movable as are the benign growths, nor can its outline be clearly distinguished. As it increases in size the overlying skin becomes reddened and infiltrated and breaks down, forming an ulcer progressively increasing and incurable. The disease not only involves the skin, but extends backward into the connective tissue with the fasciæ and muscles, and may even penetrate the chest wall. The axillary glands become enlarged and it often involves the supraclavicular region of the affected side, indicating that the axillary infection is extended beneath the clavicle. In advanced cases positive diagnosis is comparatively easy, but in the early stages it may be difficult, and he insists on the importance of noting the rapid growth of the tumor, careful examination of the lymphatics, etc. Sarcoma closely resembles soft medullary cancer, but occurs at different ages and is more rapid in growth and may remain comparatively movable. The tumor is smooth, lymphatics are rarely affected, the nipple is not retracted, and it reaches a much greater size before ulceration than is usual with carcinoma. Chronic suppurative mastitis, retromammary abscess and sarcoma may give great difficulty in their differential diagnosis. Adenoma is of slow growth; mobility and lymphatics are not affected. It occurs more frequently in the young and has no effect on the general health.

7. **Intestinal Obstruction.**—The following are the conclusions reached by Balloch from the cases here published and the comparison of the same. 1. Early diagnosis is the main factor in the saving of life in cases of bowel obstruction. 2. Acute intestinal obstruction is characterized by symptoms which should be recognized with reasonable certainty in the majority of cases. 3. If obstruction probably exists, cathartics should be withheld. 4. Chronic, slowly-increasing obstruction may at any time become acute. 5. Surgical advice should be sought early. 6. In true obstruction the only remedy is surgical intervention. 7. The choice of operation depends upon the condition of the patient. 8. Whenever possible the cause of the obstruction should be radically removed. 9. Beyond question, in the last stages, and probably in doubtful cases, the proper plan is to establish a fecal fistula and thus gain time to get the patient in condition for more radical operation. 10. General anesthesia is a distinct element of danger in operative cases, and when a fecal fistula is to be established, local anesthesia should be used by preference.

9. **Non-Operative Head Injuries.**—Robinson notes the various forms of head injuries which do not seem to require immediate operation, such as scalp wounds, simple linear fractures, cerebral contusion and concussion, and cerebral compression and laceration. In many cases of the latter where localizing symptoms are absent, operative treatment is out of the question and he urges in conclusion the immediate care and antiseptic treatment of all wounds and abrasions of the soft parts of whatever degree, and extreme care in the feeding and general nourishment. Attention to these points will avoid

septic and pulmonary complications and give better chances of recovery.

10. **Operations for Head Injuries.**—Dwight, from a study of the various symptoms of cranial injuries, finds that there is a lack of characteristic symptoms aiding in the decision as to operation, unless they are definite localizing ones, and he says given positive signs of intracranial disturbances following an accident which might well cause such a condition, but without definite signs of fracture, we should explore. Given a case where there is probable evidence of fracture and a probability of interference with the brain, we should operate. From his experience he would use exploratory trephining with greater freedom than exploratory laparotomy, and he has never seen serious results follow such a measure in skilful hands, while many lives have been saved in a very large class of doubtful head injuries.

11. **Indications for Operations in Head Injuries.**—The following are Bullard's conclusions: 1. Operate in all cases of compound depressed and compound comminuted fracture of the cranium. It is usually advisable to operate on any compound fracture. 2. Simple fracture of the cranium without symptoms does not, as a rule, demand operation. 3. Absence of unconsciousness does not contraindicate operation. The degree of unconsciousness is not in all cases proportionate to the severity of the injury. 4. The duration of unconsciousness is important, and when it lasts more than twenty-four hours, no other cause than the injury being present, operation should be considered. 5. Marked rise of temperature after uncomplicated head injury suggests serious injury to the brain. It is not necessarily an indication for operation. A subnormal temperature without other symptoms has no special significance. When accompanied by unconsciousness and lasting twenty-four hours or more it suggests edema of the brain or intracranial hemorrhage. 6. Severe pain in the head continuing for some time after a head injury, if organic, indicates operation. Pain in the head following injury may, however, be functional and due to general nervous conditions. 7. Convulsions, when clonic and diffuse, suggest epilepsy or other complications. When localized they are of value as indicating the side of the brain on which the lesion producing them is situated. Taken in connection with other symptoms their presence usually favors operation. 8. The presence of paralysis of the limbs in adults, if marked, usually indicates immediate operation. Partial hemiplegias and paralysis of the limbs may occur in edema of the brain following injuries. 9. The above statements refer to adults only. In children paralyses are more apt to pass away and the indication for operation is not so decided.

15. **Carcinoma of Appendix.**—Harte and Willson report a case with elaborate clinical history, and illustrations of the operation, and for comparison they give in brief cases reported by Kelly and others of this condition and refer extensively to the literature. They discuss the causes and in their own case conclude that the original focus was catarrhal inflammation, probably due to fecal or other obstruction or to extension from the bowel, and that the carcinomatous change took place subsequently and entirely as the outgrowth of former processes. In conclusion, they discuss the practical points of treatment of this condition, considering it an additional argument for operative interference with symptoms of appendicitis. In case of carcinoma no hope of recovery without operation is possible, and though the condition is comparatively very rare—17 to 30 cases on record—it seems to be increasing in frequency. In Hurdon's case there was no recurrence after over three years, and their own case has been perfectly well for eighteen months after the operation.

16. **Anuria.**—After reporting a case with full details, the general condition is discussed. The symptoms seem to have been attributed first to malaria and were misleading, as shown by the operation. The left kidney not containing calculi was obstructed, while the right was represented merely by a mass of cicatricial tissue containing in its center a small mass of pus. It was a case of anuria in a patient with an absolutely non-functionating right kidney, the left kidney being hydronephritically dilated, due to a downward displacement of the organ resulting in such bending of the ureter as to completely interfere with the passage of urine.

18. **Pterygium.**—The operations on pterygium are noticed by Loring, who reports that he has used the method described by Coe a little over a year ago of cauterizing the apex of the pterygium, leaving the rest of the body to take care of itself, in some 23 cases altogether and generally with good results. His experience demonstrates the fact that there is no pain at the time of the application of the cautery nor after it; that it is not followed by inflammatory reaction; that there are no sutures to be removed afterward, nor wounds of a protracted nature to be healed, and the patient loses little or no time. In short, that the operation has been removed from the domain of major surgery to become one of the most minor operations on the eye.

20. **Pelvic Abscesses.**—Macphatter's article is an elaborate discussion, with illustrations, of pelvic abscess, giving first the anatomy of the region affected and later the details of treatment.

21. **Zoster.**—From the examination of a number of cases since his earlier publication in 1895, Winfield finds that a considerable portion, nearly 40 per cent., of cases of zoster occurring in his practice are in some way influenced by malarial toxemia, and he suggests that malaria might be found to be an etiologic factor in some of the epidemics of zoster, though he does not venture to say that it is the only cause. In fact, the causes of zoster are obscure and no specific organism associated with it has been found. In conclusion he adds a note referring to a paper by Engman on skin diseases associated with malarial infection published in June of this year in which five cases of zoster thus associated with malaria were reported.

22. **X-Ray.**—Bondurant reports a case of facial carcinoma and epithelioma treated with advantage by the *x*-rays, also one of lupus. He finds that they relieve pain and disagreeable discharge, and in spite of the disadvantages of time and great care required to carry out the treatment and the cost of apparatus, these are many times overbalanced by the results.

24. **Typhoid Fever.**—From a study of the condition, of which he gives an elaborate table of cases, Lewis favors as far as any practical or general conclusions can be deduced, the approximation of diet to a pint of milk diluted with an equal quantity of Vichy daily and approximates the therapeusis to half a grain of calomel twice a day. Give free and frequent draughts of acidulated or pure water. This, he says, is the theme, and the reader can write his own variations.

25. **Summer Disorders.**—A number of substitutes for the milk diet in summer disorders are here mentioned by Fischer, with directions for their manufacture; barley water made by taking a heaping tablespoonful of ground barley flour to a pint of water, boiling thoroughly for one-half hour, straining through a cheese-cloth and then adding enough water to make a pint. One tablespoonful of glycerin to each teacupful of barley water will make the same quite palatable. Oatmeal water is made in the same way. If the child is underfed, frequently the addition of the white of an egg, well beaten, to either of the above-mentioned will be found advantageous. He also describes the method of making milk of almonds by scalding one or two ounces of sweet almonds, removing the skin, then add about eight ounces of fresh water and mash the almonds to a pulp; boil this pulp with the water for about fifteen or twenty minutes, next strain through cheese-cloth and add enough water to make one pint and one tablespoonful of granulated sugar when it is not contraindicated, as in fermentative conditions. Other valuable substitutes are meat soup, chicken or beef broths. Mashed peas, boiled with beef, chicken or veal, offer a very nutritious substitute for milk. This will be found especially advantageous during the summer when milk is not well borne and when a nutritious food is required that can be fed in small doses at protracted intervals. A weakened mixed tea is also frequently of service; with or without white of egg; also tea with barley water. In cases of diarrhea and when milk can not be taken, he mentions the use of coffee diluted with barley water or with rice

water as a very valuable substitute for milk when marked cardiac depression from continued diarrhea exists. A number of formulæ are given, also the directions for making whey. He speaks especially in conclusion against the indiscriminate feeding of cream which he thinks is the foundation of subsequent dyspepsia in later life.

26. **Cancer.**—Reyburn comes to the following conclusions in regard to the causation of cancer: 1. Cancer is a disease of senility or decay of the tissues, or at least occurs at the time when the retrograde metamorphosis of the tissues is taking place. 2. Cancer is comparatively rare in hot climates, and especially where the diet of the inhabitants is composed chiefly of rice or other starchy foods. 3. Cancer at the present time is very prevalent where animal food is largely consumed; the number of cases of cancer has been found to increase in proportion to the increase in the consumption of nitrogenous or animal foods. 4. The theory of Gaylord that cancer is caused by a protozoon or animal micro-organism seems to be disproved by later investigations, and the probability is that cancer is simply erring epithelium, which has taken on an abnormal growth and development.

31. **Cocain as a Thermogenic.**—Reichert gives an elaborate paper on the effects of cocain on the temperature, reporting experimental observations and ends with the following conclusions demonstrated from his research: 1. That the rise of temperature caused by cocain is due to an increase of heat production, and that the latter depends upon two actions—one, upon the cortex, causing motor excitement, and the other, upon the caudate thermogenic center, by which heat is produced independently of motor activity. 2. That cocain possesses very little power as a thermogenic in animals lightly curarized, because of both motor quietude and the depression of some other portion of the thermogenic apparatus. 3. That cocain is absolutely without thermogenic power in animals in which the pathways of thermogenic and corticospinal motor fibers have been cut, as after sections of the spinal cord at its junction with the bulb and of crura cerebri. 4. That cocain is effective as a thermogenic when only a small portion of the caudate center is left intact with the parts below. 5. That cocain and morphin are direct antagonists in their actions upon the caudate and cortical centers which are directly or indirectly involved in the changes of temperature and heat production.

38. **Epidermolysis Bullosa (Factitia).**—Heidingsfeld reports the case of a man who had suffered from a severe form of dermatitis hiemalis which he thought was probably due to some sort of parasite or mycosis. X-ray therapy was employed with good results as in other cases of the kind. Following slight trauma, however, a bullous eruption appeared after the *x*-ray treatment which agreed in symptomatic character with the epidermolysis bullosa. He offers it as an instance of a traumatic bullous form of dermatitis following the *x*-ray light treatment.

41-42. **Adnexa Inflammations.**—Williams advocates radical treatment instead of conservative measures in the greater number of cases of inflammatory affections of the adnexa. His paper is practically a criticism of a previous one by Ehrenfest, published in the *St. Louis Medical Review* for May 24. This is followed by a short article by Ehrenfest replying to Williams, and maintaining that in the majority of cases of pyosalpinx he would still feel justified in a trial of the conservative treatment. The small mortality from the radical treatment claimed by Williams is, he thinks, not an indication of the actual after condition, for there may be serious adhesions and other complications following vaginal operation or laparotomy. With patients that can not lay off from work, the conservative treatment of course may not be so available as in the well-to-do.

53. **Operations for Malignant Disease of the Mouth and Neck.**—The dangers of such operations are described by Crile who summarizes them as follows: "The principal dangers of operations for malignant disease of the mouth and neck are the immediate, the consecutive, and the remote. The immediate or operative dangers are shock and collapse. They are caused by hemorrhage, too long duration, too much manipulation, reflex and direct inhibition of the heart and of the respiration. These may be largely prevented by an absolute control of the arterial blood supply by temporarily closing the carotid artery by preliminary injection of atropin, supplemented when possible with local applications of cocain. The principal consecutive danger is infective inflammation, particularly septic pneumonia. This is most effectively obviated by a definite control of the blood supply, to avoid the entrance of blood in the pulmonary tract, and shortening the operative time. In certain selected cases tracheotomy is helpful. After the operation the greatest reliance must be placed upon warm, moist air, careful feeding, constant care of the wound, posture, and special nursing until granulations appear. The ultimate cure depends upon the stage at which the disease is attacked and the thoroughness of the operation. The removal of individual glands is clinically unsuccessful. Especial emphasis is placed upon the advantage of removing *en bloc* all the gland-bearing tissue in which metastases may occur, beginning at the distal point, both because it is the point of advantage in the attack, and because thereby the avenues for dissemination are effectively closed."

54. **Fractures and Injuries to the Elbow Joint.**—Gillette and Brimhall describe their method of treating fractures and injuries of the elbow joint. As regards the question of passive motion, they do not advise it at all and their method of treatment is to apply a plaster-of-paris cast in extension, keeping it on for five or six weeks. They find this most comfortable for the patient, interfering least with the circulation, and conclude that it is shown in their cases and those of others that the fracture of the external or internal condyle is the most frequent fracture, and that the muscles arising from these condyles have a tendency to draw the fractured portion toward the median line and in front of the elbow joint, thus blocking flexion, and with the straight splint they are easily held in position. If there is a great deal of callus there is no danger of the olecranon fossa becoming filled with it and thus blocking extension, and the olecranon process furnishes an admirable splint to keep in place the fragments when the condyles are fractured. The traction that is made with extension and supination keeps the normal bony surfaces, with the exception of the epitrochlear surface and the olecranon, the furthest apart. They have found, moreover, that in fractures near a joint no motion whatever should be permitted until they are thoroughly united as the irritation naturally causes an increased amount of callus which interferes with motion. Active motion is much better than passive since no force is used. It is the tendency of all joints when injured or inflamed from any cause to flex, therefore, if an arm is placed in a flexed position for repair, when it is restored it is necessary for some active measures to be taken to extend it—this is not necessary when the arm is fully extended. Ankylosis is rare from any cause, less frequent from injuries. They have not seen one case of ankylosis from injury fracture or dislocation in some twenty cases which were considered bad results from fractures treated in the flexed position and some which were not diagnosed or treated at all. An anesthetic should always be used in reducing these fractures as they result from such slight causes in children that they might easily be overlooked, and moreover, under anesthesia it is much easier to reduce deformities, and the anesthetic should be kept up until the plaster is thoroughly hardened. While this position gives the best results, the fracture must be perfectly reduced when the splint is applied and failure in this was the cause in one or two imperfect results out of some thirty cases which have been treated this way.

58. **Fractured Clavicle.**—Catlin pleads for better care in these cases. The diagnosis is usually easily made and the promise of cure readily offered. The surgeon should satisfy himself as nearly as possible, without injuring the patient, of the exact point of fracture, and the possible, or probable injury of neighboring vessels, nerves and tissues. He should then restore the bone as nearly as he can to its former place and use his best ingenuity in applying the bandages with the comfort of his patient in view as much as the traditional keeping "up,

out and back" of the shoulder. It would add much to the knowledge of bandaging if the surgeon, in some cases, would have his own arm dressed with his favorite bandage for fracture of the clavicle and see how long he would enjoy, or even tolerate, its presence. All bandages, when in proper position, should be securely sewed through enough to insure their continuing to be worn until the next time the surgeon is to see them. The dressing should be removed and the arm and shoulder well bathed for the patient's comfort at least twice a week for two weeks, after which it may be changed less often.

70. **Resorbin.**—This is an ointment devised by Ledermann, consisting of fat emulsion, almond oil, wax and water, combined by the addition of a minute quantity of gelatin; in order to improve its consistency and stability a small amount of lanolin is incorporated with it. The chief object was extreme subdivision by emulsification of the fat globules, so that these should more readily penetrate the openings of the cutaneous follicles and into the dry, partly cornified layers of the epidermis. Originally he had the idea that it would also penetrate the deeper layers of the skin, though this is not possible, according to his present views. He describes the use of this material both by itself and as an excipient for drugs, in which way it has been employed largely by various authorities for combining mercurials and other active principles. A large number of formulæ are given for various conditions.

75. **Post-Operative Femoral Thrombo-Phlebitis.**—Clark concludes that the usual femoral thrombo-phlebitis which occurs as a sequel to celiotomy is non-infectious, and is originally caused from a primary thrombus of the deep epigastric veins, which is slowly propagated along the line of the vessel until it reaches the external iliac vessel, where it gives rise to a retrogressive thrombus in the femoral vein. The clinical and anatomical facts supporting the author's conclusions are given in detail.

76. **Ectopic Pregnancy.**—The various theories of the etiology of ectopic pregnancy are reviewed by Anspach, who reports cases illustrating the different forms which he recognizes. The first case was the result of fibroid nodules in the fundus uteri. One of these was so placed anatomically that it pressed upon the intramural lumen of the tube. It was removed with the gestation sac still attached to the inner extremity of the tube. Inflammatory conditions are occasionally the cause. In two cases here reported one was due to appendicitis and tubercular salpingitis and one to pyosalpinx adhesions and distortion of the tube. Malformation of the Fallopian tube may act as a predisposing cause of tubal pregnancy by obstructing the descent of a fertilized ovum. The tube, too, may be unusually long or twisted or there may be diverticula or accessory tubal ostia in which the ovum may be retained. A case is here reported of abnormal pregnancy apparently due to this latter cause.

84. **Pott's Disease.**—The essential point in treatment of Pott's disease is the treatment of the disease of which it is only a symptom or complication, and rest is that treatment according to Gillette. Rest in this case means complete and thorough immobilization which can only be obtained in the recumbent position with extension and counter-extension on a hard surface. He advocates the use of a frame like the Bradford bed frame instead of a water bed.

85. **Tubercular Arthritis.**—Townsend considers that the operative treatment of tubercular arthritis is most called for in adults, who are more liable to complications and more disabled. The most frequent indications for operation are abscess and deformity, which, if slight, may be corrected by forcible stretching, or myotomy and tenotomy. The operative procedures that are indicated are arthrotomy or incision into the articulation; arthrectomy or erasion of the diseased soft parts composing the joint; excision or removal of the diseased bone ends, with approximation of the cut surfaces to produce an ankylosis or stiff joint; the formation of a new joint or amputation above the diseased articulation to get rid of the tuberculous process and its complications. In the ankle joint arthrotomy or arthrectomy usually suffice, and are most satisfactory in early life, also at the knee joint where excision should not be practiced except in rare instances before the age of 18. If done, apparatus should be worn for many months. Where septic conditions prevail, opening the joint from side to front and turning up the patella may be indicated, or in desperate cases an amputation. In adults excision is preferable to arthrectomy. At the hip joint, arthrotomy or arthrectomy are not very satisfactory and excision and amputation have to be considered. In the wrist, arthrotomy or arthrectomy may be of value and other operations are rarely indicated. In elbow and shoulder articulations both arthrotomy and arthrectomy may be practiced and if excision is performed, it is well to secure, if possible, a movable joint. Amputation of either articulation is rarely indicated and then only in cases that are suffering from severe septic poisoning.

101. **Anal Ulcers.**—The treatment here recommended by Estes is moderate stretching, thorough, but not sufficient to paralyze the muscle for any length of time. Old hard-rimmed fissures, in addition to the stretching, should be thoroughly rubbed with pure carbolic acid or touched accurately with nitric acid. The after-treatment consists in careful cleanliness and rest in bed for forty-eight hours. After four days the patient may resume his occupation unless this requires almost constant standing in a stooped position. He urges that in cases of obscure nervous trouble with pain about the sacrum and coccyx, careful exploration of the anus should be made for ulcers and if they are found no time should be lost before stretching thoroughly the sphincter ani. Fissures with local symptoms also require this treatment.

105. **Diseases of the Nervous System.**—The point to be aimed at in the prophylaxis of these disorders are: 1. The hereditary factor. Perhaps not much can be done with this, but it is worth while to call attention to it, and it may be that our laws may be modified in such a way as to bear some fruit. 2. The prevention of infection, and also of intoxications, both exogenous and endogenous. He calls particular attention to the auto-intoxications, the poisons of rheumatism and gout which are active in a large number of so-called functional disorders. Physical trauma should also be remembered, but we can not do much in this line. Psychical trauma is also largely outside our influence, though we should aim to keep the patient away from unfavorable environments. The influence of sexual disorders on the nervous system is not so great as formerly supposed, but their correction is, of course, indicated and the patient should be carefully advised. The influence of reflex disorders is often overestimated.

113. **Transplantation of Tumors.**—Loeb has continued his experiments on transplantation of tumors, which were begun and partly reported in a former article. Further successful transplantations of tumors found in white rats are reported, especially a series of transplantations of the sarcomatous part of a mixed adenocarcinoma—sarcoma of the thyroid. The reasons are given why these new growths must be regarded as real sarcomata and not as granulomata. The structural differences and the constancy and variability of the tumors are noted. These latter investigations make it certain that many peripheral sarcoma cells remain alive in the first few days after transplantation and mix with the growing connective tissue of the neighborhood. It is probable that these peripheral sarcoma cells give rise to the tumors after transplantation. The growing sarcoma can penetrate into the central necrotic part of the transplanted piece, which becomes liquefied, probably under the influence of proteolytic ferments. All attempts to produce tumors by transplantation of pieces or by injection of tumor fluid in white mice, guinea-pigs and rabbits, have been without result. In the new series of experiments injection of cystic fluid or of a fluid obtained by mincing the tumor with addition of normal salt solution, failed to produce sarcomata. The question of individual immunity is discussed and various factors make it difficult to prove its existence. Local conditions determine in some measure the fate of the tumor. There are also similar complications as to the question of the decrease of virulence in the course of transplantation. Local metastases and contact metastases were also formed

in this second series, and secondary nodules if ulceration of some part of the tumor had taken place. The curve representing the growth of the transplanted pieces was similar in both series. Experiments were made to see how long pieces cut out from tumors could be kept on ice and yet develop sarcomata after transplantation. It was found that pieces kept on ice one, two and five days developed in each case several tumors. Experiments on the influence of the Roentgen rays were begun and after seven exposures of ten minutes each the sarcoma cells continued to multiply by mitosis. Pieces transplanted from a tumor treated in this way developed sarcomata. The result of transplantation of an adenoma of the mammary gland was different according to the animal in which pieces were transplanted. Pieces transplanted into the same animal remained alive *in toto*, while those transplanted into other rats became almost entirely necrotic, though in one case there was some growth. In the original piece and in the piece transplanted into the same rat, pregnancy induced a large increase in the size of the tumor. Mast cells present in the tumor were successfully transplanted, though their later fate depended on the fate of the transplanted tumor.

115. **Diphtheria Bacilli.**—Williams has experimented with cultures from typical diphtheria bacilli from healthy throats, from children in asylums during an epidemic of diphtheria and from other sources. She finds from observation that specifically virulent diphtheria bacilli do not change readily, if ever, into any form of non-virulent diphtheria-like bacilli in throats or noses of people during an attack of diphtheria. In normal throats the various varieties of diphtheria-like bacilli may be found in the same individual, and in case diphtheria results there are many distinct varieties of these which retain in serial pure cultures the characteristics of the original culture. It therefore appears that the non-virulent, non-typical forms do not change readily, if at all, into virulent forms in healthy throats. In the asylum cases they found that in cases of diphtheria apparently contracted from the same source, the same variety of diphtheria bacilli was found in each case and remained unchanged. No gradations into pseudo types were found. Pure cultures continued to show characteristics similar to the original. The various original and later cultures of the series are noted and she concludes that since there are so many different forms or varieties of diphtheria-like bacilli it is quite possible that some of them are so nearly related to the diphtheria bacillus that under certain conditions they readily develop its characteristics.

117. **The Influence of the Spleen on Hemolytic Properties of Blood Serum.**—This is studied by Levin, who finds from his series of experiments that the spleen is undoubtedly not indispensable for the acquired or the natural hemolytic properties of the blood serum. Nor, so far as these experiments go, does it appear to elaborate these substances upon which either the normal or artificial hemolytic properties for the blood serum depend. This last question, however, needs further research with a different technic.

119. **Carcinoma and Tuberculosis.**—The alleged antagonism of carcinoma and tuberculosis has been studied by Moak, who reports cases of their simultaneous occurrence in the same organ. He thinks there are several factors to be taken into consideration in considering the relations of there two conditions: 1. That cases of active tuberculosis occur for the most part at the time of life before carcinoma becomes prevalent. 2. That figures showing that carcinoma and tuberculosis apparently exclude one another are based altogether on cases of active tuberculosis, and do not take into account the latent or healed tuberculosis. If these latter forms are taken into account it is evident that the two diseases must be very frequently associated in the same individual, as figures show that a large proportion of persons have had or carry the lesions of tuberculosis in their systems in the latent form. 3. That the organs most frequently affected by tuberculosis are not the organs most frequently attacked by carcinoma. Tuberculosis in adult life is nearly always primary in the lung where only a very few cases of carcinoma occur. The statistics given by Williams, for example, show that in over 80 per cent. of cases it is found in locations where tuberculosis is relatively infrequent, namely, the breast, uterus, prostate, tongue, mouth and lower lip, esophagus, stomach, external genitalia, bladder and superior maxilla. He concludes, therefore, there is no real antagonism between the two.

124. **Pulmonary Gangrene.**—The following are Ophüls' conclusions: "1. Pulmonary gangrene is very probably always due to mixed infection with pyogenic cocci and other bacteria of a more saprophytic nature. 2. Quite frequently the latter belong to the class of actinomyces (including in this class all branching bacteria like tubercle bacilli, diphtheria bacilli, etc.), and they may be more or less acid-proof. 3. The gangrenous process is always accompanied by pneumonic processes which in the more chronic cases usually appear in the form of a chronic catarrhal pneumonia with carnification."

125. **Trichinosis.**—Trichinosis with special reference to the value of eosinophilia in the diagnosis is studied by Drake, who remarks that eosinophilia with certain other signs point to the diagnosis of trichinosis, though its absence should by no means exclude the possibility of trichinosis being present. That it is possible in a great measure to separate trichinous swine from the non-diseased without losing the entire herd. Trichinosis may be very easily diagnosed in some cases and with difficulty in others, especially if accompanied with phthisis or disease in which enteritis or swelling of the extremities may occur. It may simulate typhoid fever, muscular rheumatism or peripheral neuritis. He suggests a more careful inspection of pork in state institutions, for trichinosis, as trichinosis has long been known to be unusually prevalent among the insane patients.

128. **Classification of Tumors.**—Adami's article is a highly scientific one, giving a new classification of tumors which he divides into two great groups: The lepidomata or "Rind" tumors, originating in the tissues of the epiblast or lining membrane tissue. Hylomata or tumors of the tissues developed from the embryonic pulp. The former he divides into epilepidomata or tumors whose characteristic constituents are overgrowths of tissues, derived directly from the epiblastic lining membranes, or true epiblast; hypolepidomata and mesolepidomata, which are made up of cells derived in direct descent from the persistent mesothelium of the embryo; and endothelial lepidomata originating from the endothelium of the blood and lymph vessels. Of the hylomata or "pulp" tumors he makes three classes, epithylomata, hypohylomata and mesohylomata, arising respectively from the epiblastic, hypoblastic and mesoblastic pulp. He does not include in this classification the deciduoma malignum, which he puts among the teratoma, that is, tumors originating in the growth of cells of a second individual within the tissues of the individual of the same species. This classification is developed and his views are given in detail.

138. **Leucorrhea.**—Wylie emphasizes the fact that leucorrhea is merely a symptom of some existing abnormal condition, and that even very young girls are often affected with it. In these cases, one of the commonest causes of the vaginal discharge is infection by the nurse. Not infrequently, however, a child will have a discharge about the vulva which is due to local irritation resulting from an adherent clitoris or the presence of worms. Catarrhal troubles are also a source of leucorrhea; also obstinate constipation or any bad condition of the rectum. Gonorrhea is often the cause of severe and almost incurable vaginal discharge, and it renders the diagnosis difficult. In the local treatment of the gonorrheal variety, the author states that he has found the various preparations of nitrate of silver most serviceable, and weak solutions apparently give just as good or even better results than stronger ones.

142. **Infantile Spinal Paralysis.**—Starr describes the methods of treating cases with mechanical appliances both before and after tenotomy, and also the use of attachment or transplantation of the active muscle to allow it to act to better advantage, reporting cases of all these types. Where so little muscular tissue is left as to be useless for a support and where supports are not advisable, a stiff joint may be

produced giving a suitable foot or leg. It is not so satisfactory but it may work.

143. **Fractures of the Shaft of the Femur.**—From the study of a large number of cases, Williams offers the following conclusions, leaving out extraordinary conditions following compound cases and the like: "1. That more or less shortening is uniformly the result even in the most favorable cases. 2. That as overlapping of the fragments is nearly always inevitable, one inch constitutes a good result, less than one inch, excellent. (My cases show only a slight fraction over half an inch.) 3. That slight limping shows shortening of about an inch due to tilting of the pelvis to the injured side, and is not to be considered unfavorable as a result of oblique fractures. 4. That slight stiffness of the joints and atrophy are inevitable in most cases and are of minor importance when bony union has occurred without deformity. 5. That a laboring man will lose 40 per cent. of his working power to the end of twelve months and 25 to 30 per cent. for the rest of his life. 6. That slight eversion and deformity, if present with good bony union, and the ability to walk, are inevitable in some cases no matter how carefully treated. 7. That age is a great factor in giving an opinion, under 18 years expecting a better result than in strong muscular adults. 8. That a final judgment should not be given for twelve months. The surgeon himself should be prepared to state: 1, that he has used some approved method of extension and counter-extension; 2, that side splints or a cast have been used to prevent lateral movement of the fragments; 3, that some method has been adopted to correct eversion and external rotation of the limb; 4, that measurements were applied at the time of the injury and repeated at frequent intervals up to the end of the 25th day by tape or steel, and by the correct surgical methods; 5, that he was careful in recognizing and considering the constitutional condition of the patient, as bearing on the results, during the treatment; 6, and finally, he should give a guarded prognosis at the time of the injury, keeping in mind the tendency to non-union, shortening, deformity, and loss of working power, in all oblique fractures of the thigh; 7, Golding Bird says, 'In charges of malpractice, it is not the beauty of the bone scar that should determine the rights of any particular case, but the clinical result produced by the treatment. It is a sharp-edged tool, that may inflict a lifelong injury on the surgeon.' In other words, it is impossible to accurately approximate bony ends in the deep tissues without more or less irregularity or overlapping, and it should be impressed on the court by the medical expert, 'that *x*-ray pictures of fractures should carry little weight against strong bony union without manifest external deformity.'"

144. **Acetozone.**—Chisholm reports a case of malignant edema of both hands which was cured by syringing with acetozone, full strength, in the abscesses. He believes this to be the first case of malignant edema treated without amputation. The case was examined bacteriologically and the diagnosis confirmed.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), July 26.

1 *Total Extirpation of the Prostate for Radical Cure of Enlargement of That Organ. P. J. Freyer.
2 The Medical Curriculum of the Scottish Universities. E. A. Schafer.

The Lancet (London), July 26.

3 *Injuries of Nerves. Anthony A. Bowlby.
4 *The Causation and Prevention of Phthisis. Byrom Bramwell.
5 *On Puerperal Aphasia, with an Analysis of 18 Cases. M. A. McIntyre Sinclair.
6 On the Acetone Series of Products in Connection with Diabetic Coma. (To be concluded.) F. W. Pavy.
7 Three Cases of Motor Aphasia from Injury of the Head, Two of Which Were Rapidly Cured by Operation. David Newman.
8 A Report on 43 Consecutive Cases of Diphtheria. S. Gurney Champion.
9 Note on a Case of "True" Intestinal Sand. Charles H. Bedford.

Bulletin Gen. de Therapeutique (Paris), cxliii, May 23 to July 8.

10 (No. 19.) *Les médicaments d'épargne. H. Souller.
11 Efficacité de la yohimbine dans l'impuissance. C. Amat.
12 (No. 20.) *Traitement d'eczema prurigineux. A. Robin.
13 Contribution à l'étude des principes reducters des tissus vivants (reducers of living tissues), et leur intervention dans l'explication des propriétés catalytiques de la fibrine. E. Pozzi-Escot.
14 Un appareil photothérapique (Broca et Chatin), employant l'arc à alliage de fer sans réfrigeration (iron arc lamp). G. Baudouin.
15 Avantages du lait d'anesse et de chèvre (ass and goat milk). Créquy.
16 Le régime dietétique de certaines albuminuries. C. Fiessinger.
17 (No. 21.) *Traitement de la dyspepsie hypersthénique aigue paroxystique. A. Robin.
18 (No. 22.) *Traitement du rheumatisme chron. A. Robin.
19 Inhalateur à reservoir d'eau pour l'anesthésie par la chlorure d'éthyle, etc. Cresantignes.
20 La ré-éducation motrice. M. Faure.
21 (No. 23.) Note sur l'adrenaline. C. Amat.
22 (No. 24.) *Traitement de l'hemoptysie. A. Robin.
23 L'Ulmarène. Bardet.
24 Note sur l'emploi du methylarsinate disodique chez les tuberculeux. Vigenaud.

Revue de Medecine (Paris), June.

25 Sur quelques cas d'angines à tetragènes. C. Féré.
26 Fréquence de la rétraction de l'aponévrose palmaire chez les aliénés. C. Féré.
27 *La bronchopneumonie pseudolobaire continue; 4 cas. G. Rosenthal.

July.

28 L'anévrysme de l'aorte ascendante à diverticule antero- laterale gauche et les traces sphygmographiques. D'Espine.
29 Mécanisme de l'infection intestinale dans la dysentérie. L. E. Bertrand.
30 Des secousses rythmiques de la tête chez les aortiques et chez les personnes saines. H. Frenkel.
31 Bases phys. de l'étude pathogénique du diabète sucré. R. Lepine.

Virchow's Archiv (Berlin), 168.

28 (No. 1.) Structure of Liver Cells. Browicz.—Ueber den Bau der Leberzelle.
29 Die Umwandlung des Cylinderepithels zu Plattenepithel in der Nasenhöhle und ihre Bedeutung für die Aetiologie der Ozaena. A. Schönemann.
30 Zur Histo-pathologie des Pankreas bei Diabetes mellitus. M. Herzog (Chicago).
31 Bedeutung der Langerhans'schen Inseln. L. W. Ssobolew.
32 Zur Anat. und Pathogenese der Divertikel der vorderen Oesophagus-Wand. M. Hausmann.
33 (No. 2.) Gas Organs and Fulminating Gangrene. Westenhoeffer.—Ueber Schaumorgane und Gangrène foudroyante.
34 Mixed Tumors of Salivary Glands. J. Steinhaus.—Ueber die Misch-Geschwülste der Mundspeicheldrüsen.
35 Ueber Dermoid-Cysten im Ligamentum Latum, am Samenstrang und Nebenhoden bei Foetus und Neonatorum. R. Meyer.
36 Zur Kenntniss der Metastasen des primären Nierencarcinoms (Cancer of Kidney). H. Sutter.
37 (No. 3.) Comparative Morphology of the Leucocytes. J. Meinertz.—Zur vergleichenden Morphologie der farblosen Blutzellen.
38 Blood Changes in Poisoning with Toluylendiamin. E. Schwalbe.—Die morph. Veränderungen der Blutkörperchen bei der Toluylendiamin-Vergiftung.
39 Ueber die heteroplastische Knochenbildung (Bone Formation). C. Sacerdotti.
40 Ueber Framboesia und ähnliche Erkrankungen in den Tropen. M. Glogner.
41 Zur Histologie der Samenblasen (Seminal Vesicles), nebst Bemerkungen über Lipochrom. Akutsu.
42 Zur Lehre von der Function der Milz (Spleen). R. Heinz.
43 Transmission of Hemolytic Toxins from the Fetus. Ibid.—Der Uebergang von Blutkörperchen-Giften aus Foeten.
44 Transition of Nuclear Reds into Non-Nucleated Erythrocytes. Ibid.—Der Uebergang der embryonalen kernhaltigen rothen Blutkörperchen in kernlose Erythrocyten.

Archiv f. Gynaecologie (Berlin), lxvi, 2.

45 *Ueber den Einfluss totaler Urinverhaltung auf den Organismus gravider und nicht gravider Thiere. L. Blumreich.
46 *Ueber die Entstehung der Eklampsie. H. Mueller.
47 Ibid. W. Albert.
48 Kraurosis Vulvæ. F. Trespe.
49 *Value of Floating Test of Lungs. F. Hitschmann.—Zur Frage der Verwerthbarkeit der Lungenschwimmprobe bei Keimgehalt der Uterushöhle.
50 Zur Kenntniss des primären Tubencarcinoms. M. Stolz.
51 Ueber Albuminurie bei der Geburt (Childbirth). M. Zangemeister.
52 Congen. Enlargement of Single Kidney. H. Palm.—Congen. Vergrösserung einer normal gebauten Niere bei Defekt der anderen: Ein Beweis für die Thätigkeit der Nieren im embryonalen Leben.

Archiv f. Klin. Chirurgie (Berlin), lxvii, 4.

53 Zur operativen Behandlung grosser Rectum-Prolaps. Von Eiselsberg.
54 Zur Lehre von der Dupuytren'schen Fingercontractur. P. Janssen.
55 Ueber die Behandlung infectiöser eitriger Processe im Peritoneum. Rehn.
56 Exp. Research on Peritonitis Caused by Stomach Contents. K. Brunner.—Exp. Untersuchungen über die durch Mageninhalt bewirkte Peritonitis.
57 *Zur operativen Behandlung der essentiellen Epilepsie. G. J. Winter.
58 Firearm Abdominal Wounds. Hildebrandt.—Ueber die Bauchverletzungen durch kleinkalibergeschosse und ihre Behandlung im Felde.
59 Die Splenectomie und die Talma'schen Operation bei der Banti'schen Krankheit. I. Tansini.

60 Plastic Surgery on the Choledochus. H. Kehr.—Ueber den plastischen Verschluss von Defecten der Choledochus-wand durch Netzstücke und durch Serosa-Muscularislappen aus Magen oder Gallenblase.
61 Prothesis for the Thigh. W. Engels (Hamburg).—Eine neue Oberschenkelprothese.
62 *Rupture of Bladder. Ledderhose.—Zur Behandlung der intraperitonealen Blasenzerreissung.
63 *Ueber operative Behandlung der chron. Obstipation. F. Franke.
64 Intestinal Occlusion and Enterostomy in Peritonitis. L. Heidenhain.—Ueber Darmverschluss und Enterostomie bei Peritonitis.
65 Bacteriologic Study of Blood in Surgical Suppurations and at Beginning of General Infection. Bertelsmann.—Ueber bact. Blutuntersuchungen bei chir. Eiterungen mit bes. Berücksichtigung des Beginns der Allgemeininfection.
66 Results of Reversal of Intestine. W. Prutz and A. Elliger.—Ueber die Folgen der Darmgegenschaltung.
67 Symptoms Induced by Intestinal Diverticula. E. Payr.—Ueber Darmdivertikel und durch sie erzeugte seltene Krankheitsbilder.
68 Ueber Bursitis subacromialis. E. Küster.

Beitraege zur Klin. Chirurgie (Tubingen), xxxiii, 2 and 3.

69 (No. 2.) *Zur Path. und Therapie der gutartigen Magenkrankheiten (Benign Gastric Affections). Petersen.
70 *Zur Statistik und Technik der Radicaloperationen des Mastdarmkrebses (Cancer of Rectum). V. Lieblein (Prague).
71 Die Thrombose der Mesenterialgefasse (Mesenteric Vessels). P. Kölbing.
72 Zur Kenntniss der sogen. traumatischen Myositis ossificans. F. Schulz.
73 Ueber traumatischen Exostosen. H. Schuler.
74 (No. 3.) *Question of Permanent Cure of Cancer. A. Labhardt.—Zur Frage der Dauerheilungen des Krebses.
75 Ueber die Dekortication der Lunge bei chron. Empyem. Kurpjuweit.
76 Die Morphologie des Blutes bei Osteomyelitis. E. Joseph.
77 Traumatische Tarsusverschiebungen (Displacement of Tarsus). H. Zuppinger.
78 *Ueber Pasten- und Salbenverbände. B. Honsell.
79 Darmverschluss (Intestinal Obstruction) durch das Meckel-'sche Divertikel. H. Hilgenreiner.
80 Zur Kenntniss der Beziehungen der acuten Miliartuberkulose zur Operation tuberkulöser Lymphomata Colli. H. Willmer.

Archiv f. Kinderheilkunde (Stuttgart), xxxiv.

81 (Nos. 1-2.) Alcoholism in Children. J. Gross.—Alkoholismus in Kindesalter.
82 Ueber Lichen scrophulosum und dessen Beziehung zu den Tuberculides cutanées. Darier.
83 Experiences with Scarlet Fever. J. Gross.—Die Behandlung des Scharlachs.
84 *Present Status of Cryoscopy. H. Roeder.—Der heutige Stand der Gefrierpunktsbestimmung.
85 (Nos. 3-4.) Diphtheria in Scarlet Fever. J. A. Schabad.—Diph. und der Diph.-Bacillus bei Scharlach.
86 *Zur Pathologie und Therapie des Scharlachs. A. Tobeitz.
87 Ueber Säuglingsernährung (Infant Feeding). Rissmann.

Berliner Klin. Wochenschrift, July 14.

88 Gout and Its Treatment with Quinic Acid. Huber.—Ueber Gicht und ihre Behandlung mit Chinasäure.
89 Zur Chemie und Biologie der Eiweisskörper (Albuminoids). F. Umber.
90 Treatment of Congenital Clubfoot in Infants. W. v. Oettingen (von Bergmann's Clinic).—Die Behandlung des angeb. Klumpfusses beim Säugling. (Commenced in No. 26.)
91 *Remarks on Adamkiewicz's Report of "Cancroin in Treatment of Cancer."—Nothnagel, von Eiselsberg, Poten, Schultzenstein.

Centblt. f. Allg. Path. (Jena), xiii, 8 to 10.

92 (Nos. 8 and 9.) Cell Segmentation. E. Krompecher.—Ueber Zelltheilung.
93 Staining Elastic Fibers. V. Pranter.—Zur Färbung der elastischen Fasern.
94 New Method of Staining Myelin Sheaths. H. von Schrotter.—Neue Methode der Marksscheidenfärbung.
95 Endarteritis cartilaginosa der grossen Hirngefässe (Brain Vessels). O. Marburg.
96 Structure of Carcinoma Metastases. T. Honda.—Ueber Struktur und Wachsthum des Carcinoms in Bezug auf die Metastase.
97 Mechanical Properties of Tissues in Inflammation. I. Maraschew.—Ueber die mech. Eigenschaften der Gewebe bei der Entzundung.
98 (No. 10.) Ueber das basophile protoplasma der Gewebszellen (Tissue Cells). M. Askanazy.
99 Regional Lymph Glands in Case of Carcinoma of the Thyroid. O. Ehrhardt.—Ueber die Regionären Lymphdrüsen beim Krebs der Schilddrüse.
100 Untersuchungen über die peripheren Nerven bei exp. Tetania thyreopriva. R. Traina.

Centblt. f. inn. Medicin (Leipsic), May to July 12.

101 (No. 22.) Measurements of the Shoulders in Diagnosis. J. Casparie.—Ueber Schultermessung und deren diagn. Wert.
102 (No. 23.) *Ueber Tuberculose und deren Behandlung mit bes. Berücksichtigung des Tuberkulocidin Kiebs. F. Jessen.
103 (No. 24.) Determination of the Haloid Salts. A. Schücking.—Eine neue mikrochemische Bestimmung von Haloidsalzen.
104 (No. 25.) *Zur Verwerthung des Gaertner'schen Hämophotographen. Follens.
105 (No. 28.) *Green Vomit Not Due to Bile, But to Algæ. A. Kühn (Rostock).—Das Vorkommen von grünen entwicklungsfähigen Pflanzenkeimen im Magen und deren diagnostische Bedeutung.

Deutsche Ztft. f. Nervenheilkunde (Leipsic), xxi, 5-6.

106 *Die psychogene Pseudomeningitis. H. Starck.
107 Abnormal Development of Spinal Canal in Children. Rolly.—Ueber periependymäre Wucherung, Kanalbildung und abnorme Entwickelungsvorgänge im kindlichen Rückenmarkskanal.
108 Zur Kritik der "subcorticalen" sensorischen Aphasie. Strohmayer.
109 Klin. und anat.-path. Beiträge über Aphasien. Mingazzini.
110 Ueber diffuse Sarkomatose der Pia mater des ganzen Centralnervensystems. Nonne.
111 Hereditary Spinal Affections. T. Zahn.—Zur Klin. der vererbten Rückenmarkskrankheiten und der Degeneration der Vorderseitenstrangreste.
112 Zur Symptomatologie und Diagnostik der Gehirntumoren (Brain Tumors) und des chron. Hydrocephalus. R. Finkelnburg.

Therapie der Gegenwart (Berlin), July.

113 *Die Localtherapie der Lepra. P. G. Unna.
114 *Die Serumbehandlung des acuten und chron. Gelenkrheumatismus. Menzer.
115 Gastric Proferments. J. Weidenhahn.—Ueber das Vorkommen von Profermenten im kranken Magen.
116 Treatment of Oxaluria. H. Rosin.—Ueber die rationelle Behandlung-Methode der Oxalurie.
117 "Odda" in Children's Diet. H. Brüning.—Zur Frage der Ernährung kranker Kinder mit "Odda."
118 Local Treatment of Affections of Upper Air-Passages. F. Klemperer.—Die Principien der Localbehandlung bei Erkrankungen der oberen Luftwege.
119 Results of Recent Research on Effects of Boracic Acid as a Preservative. Rost.—Die Ergebnisse der neueren Arbeiten über die Wirkungen der Borsäure.
120 Tests of Motility of Stomach. Schüle.—Ueber die Untersuchung der Magenmotilität.
121 Successful Mechanical Treatment of Impotentia Coeundi. K. Gerson.—Zur mech. Behandlung der Impotentia coeundi.
122 Der klimaterische Heilfaktor beim Morbus Brightii. H. Naumann.

Gazzetta degli Ospedali (Milan), July 13 and 20.

123 (No. 78.) *Sull' azione dei preparati di ferro nei casi di malaria latente. Cova and Bono.
124 Alcuni resultati di cure della arteriosclerosi col siero di Trunecek. G. Zanoni.
125 Il siero antidifterici nelle dissenteria scarlattinosa. G. Ciaceri.
126 (No. 81.) *Idro-elettro-dilatatore uretrale. G. Viana.
127 Il tratamiento della nefrolitiasi ossalica, urica e fosfatica. G. Campanella.

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1. **Prostatic Hypertrophy.**—Freyer gives additional data, reporting several more cases to those already reported of operation by his suprapubic method, making 14 patients in all, ranging from 58 to 76 years of age, all in broken health and some of them almost moribund before operation. The prostates removed varied in weight from 1.5 to 10.25 ounces. In 13 cases success was complete. The other case had recovered from the operation and was passing urine naturally when he was seized by an acute mania from which he died. In Freyer's former article when giving the details of eight of the cases, he described how, while endeavoring to separate the prostatic lobes along their superior commissure so as to leave the urethra behind intact, the urethra was undesignedly torn across, and the prostate propelled as a whole into the bladder by the force of the finger in the rectum. The patient made an excellent recovery and is in good health untroubled by urinary symptoms. The success in this case has led Freyer to tear the urethra across in some of these cases where he found the enlargement insufficient to define and loosen the lobes along the superior or inferior commissure so as to be able to peel the prostate off the urethra and leave the latter behind intact. The success he has had in these latter cases is important, indicating as it does that we may remove the prostate at an earlier stage in its growth and when it is found impossible to separate it from the urethra we can boldly tear it across or even remove it. That the continuity between the bladder and urethra is secured when the prostatic portion of the latter is partially or wholly removed, is accounted for by him as follows: By the contraction of the cavity left by the removal of the prostate, the neck of the bladder is advanced to the posterior aspect of the triangular ligament, and direct union then takes place between it and the membranous portion of the canal. The daily passage of a large catheter for irrigation purposes keeps the passage open until success is secured and the urine flows naturally as the suprapubic wound closes.

3. **Suture of Nerves.**—The suturing of nerves has only been in vogue as a practice for the last twenty years. Prior to that only silk was available, and the surgeon hesitated to leave silk in a wound. If the wound heals soundly and the two ends of a nerve have been coapted some union will

certainly result and this is the main fact in the primary suture of nerves. When a wound has been inflicted and a nerve divided it should be sutured by an operation, provided the operation is reasonably feasible and not unduly dangerous. The operation of secondary suture is to be undertaken in all cases where a nerve has been divided and also if division is suspected. It may be difficult to dissect out the nerve from the scar and in these cases it is easier to make an incision long enough to reach a healthy part of the nerve above and below. These are then to be separated from the matted tissue and the divided ends can be sutured. There is not too much tissue to be spared in many cases, therefore too much nerve should not be sacrificed. The bulb should not be cut off from the proximal end excepting in its anterior portion. It is composed of nerve fibers and holds a suture exceedingly well. As far also as the peripheral nerve is concerned, the whole of it is then shrunken and smaller than natural, and there is no use in cutting off successive pieces of it. It is all equally degenerated or regenerated. All that is necessary is to free it from the scar tissue. We need not be afraid of putting a good deal of tension upon the nerve in bringing it together if that tension can be relieved by flexion of the wrist or elbow or other joints near which it lies. The first factor in cases of failure is sepsis and therefore operation should be as aseptic as possible. Bowlby discusses the effects of nerve division in various occupations showing how much more perfect function is in some cases than in others, and how better results can be obtained when the functional demand is not too great. We can not expect a complete cure in the case of a pianist or violinist, but a day laborer might have as effective a hand as ever after suturing the nerve. Nerve grafting is mentioned, and he reports a case of his own, remarking also that other cases have been reported with still better results. Partial division of the nerve and contusion of the nerves are also discussed, and he sums up the chief points of treatment as follows: "In the first place, nerves do mend in many respects as well as do other tissues of the body and, after a preliminary degeneration regenerative changes ensue in the peripheral end and are more complete in the sensory than in the motor fibers. On the other hand, you must not expect a too complete restoration of muscular power or of sensation, especially in the case of nerves supplying the hand. As far as the treatment of these wounds is concerned primary suture is the thing to aim at in all cases and when a primary suture has been undertaken and successfully carried out, and the wound has healed by first intention, in those circumstances you may rest assured that the nerve will unite, and it will unite all the more quickly if you take care to keep the part in use, to keep it warm, to have it massaged, and, if necessary, to have it galvanized. It will surely unite in time, and the more quickly if the patient be young. Dissuade your patient, therefore, from being in a hurry to have other operations done if primary suture has been satisfactorily performed and the wound has healed by first intention. With regard to secondary suture, it ought to be undertaken in every case where in a punctured wound a nerve appears to have been either completely divided or so nearly divided as to make it probable that it has been materially injured and may, perhaps, be really divided. In undertaking the operation of secondary suture do not encourage your patient too much if the interval between the injury and the secondary suture is a very long one. My experience is that up to two years you may reasonably expect in the young a good restoration of sensation and muscular power. But after an interval of four years no one has ever yet recorded a case in which there has been complete restoration of motor power, although there have been cases of restoration of sensation. When you undertake these operations for secondary suture, therefore, remember that to some extent your prognosis is to be guarded, and in giving it you must be guided by the length of time which has elapsed and to some extent by the age of the patient and the particular nerve which is injured. You may give a much better prognosis, from the patient's point of view, in cases of wounds of nerves other than those which supply the small muscles of the hand with power and the fingers with sensation."

4. **Phthisis.**—Bramwell discusses the compulsory notification of phthisis which he favors, reviewing the objections, which he thinks are many of them fallacious and none of them of sufficient force to overweigh the advantages. He doubts, however, whether phthisis can ever be completely wiped out by any means, but its prevalence can be enormously reduced and compulsory notification will be a valuable aid in bringing this about.

5. **Puerperal Aphasia.**—Puerperal aphasia is a term which has hardly found its way into English nomenclature, though it is given a distinctive significance in continental records. Sinclair follows Poupon's classification of cases, those due to nervous causes and those of vascular origin, while he admits the occurrence of cases due to nervous dyscrasias, such as hysteria and reflex disturbances, as complications of pregnancy. He thinks Poupon lays too much stress on this factor and the occurrence of definite aphasia following delivery should usually rather suggest a local focal lesion. In the second group, those due to recognized or suspected vascular lesions, and which, therefore, comprise the greater number, Poupon credits, as the main factor, cerebral embolism. There are, however, also many cases where the blood vessels show no signs of degeneracy, there is no cardiac disease and no contraction of the neurotic habit. Sinclair accounts for these by the condition of the blood in pregnancy, which he thinks has a greater tendency to the formation of clots within the vessels and gives his arguments in favor of this point of view. An increased tendency to aphasia in subsequent pregnancies is also an argument for thrombi as against emboli. The nature of the labor has no relation to the loss of speech. In many cases it is natural and easy, but it is evident that in pyogenic cases and again in cases accompanied by severe hemorrhage and subsequent anemia it may contribute indirectly to the occurrence. Lacteal derangements may, as Poupon and Bateman think, have some share in the production. He is struck with the large proportion of recoveries from primary attack. The age of childbearing women is an important factor in this, and the vascular conditions are mostly such as to allow the quick resolution of a thrombus or the rapid opening up of a collateral circulation. At the same time the statistics emphasize the liability of recurrence in subsequent pregnancy and the extreme severity of the second attack. He advises warning the patient of its possible outcome. In some cases he would even go so far as to produce early abortion to prevent the possible occurrence of aphasia or other cerebral complications that may present, as recurrence is a serious matter.

10. **Conservating Medicines.**—Soulier's monograph was delivered as the principal address at the last French Congress of Internal Medicine. By the term "médicament d'épargne" he means a drug that moderates the nutritional processes, reduces the oxidations and retards denutrition. He states that the kola-coffee group alone fulfills these conditions. The members of this group do not moderate the nutritional processes, in fact they actually stimulate nutrition and oxidation, but nevertheless they are savers of the albuminoids, in the sense that they favor the utilization of the alimentary reserves of the organism during deprivation of food. Arsenic should be included in this kola-coffee group as it is a mobilizer of oxygen. Its action is something like a fermentation and it can be regarded as a ferment.

12. **Treatment of Pruriginous Eczema.**—Robin is one of the leading men in internal medicine in France, president of the Société de Therapeutique and is editor of its journal. He noticed that acid gastric fermentation invariably accompanied prurigo in the thirty cases he examined. Lactic acid was constantly present in the sweat, in proportions ranging from 1 to 2.88 gm. to the liter, and butyric acid was found in a few. The acidity of the sweat was continuous and not merely confined to periods of digestion. Eosinophilia was also marked and nearly constant, averaging 8 or 9 per cent., but in some cases it amounted to 10 or 17 per cent. Treatment should be addressed to the chronic gastritis, and he prefers ammonium fluorid for the purpose, used in breweries to arrest lactic fermentation.

He prescribes with each meal a tablespoonful of a mixture of .2 gm. ammonium fluorid in 100 gm. water, restricting the diet to a pint of hot sterilized milk every three hours, between 7 a. m. and 10 p. m. The milk must be slowly sipped and the amount gradually increased to 700 gm. at a time. If the fermentation is butyric, he orders the bi-iodid of bismuth and cinchoinidin, usually called erythrol. In case of distress in the stomach he gives a powder of .4 gm. each of lactose, calcined magnesia and sodium bicarbonate, with .6 of prepared chalk. He supplements this internal treatment by dusting the pruriginous patches with a powder of 60 parts starch, 15 of zinc oxid and 2 of camphor. At night the patch is moistened with a lotion of 2 gm. sodium silicate to 300 gm. water. When dry the surface is varnished with a very little compound tincture of benzoin. Complete cure is certain in less than a month at farthest, he states.

17. **Treatment of Paroxysmal Hypersthenic Dyspepsia.**—Robin describes a case in which the severe attacks recurred six times. Each lasted from one to fifteen days, and resembled the gastric crises of tabes. They were treated by exclusive rectal feeding, not allowing even water by the mouth. As the patient recovers, he gradually substitutes 150 gm. of hot milk by the mouth for a rectal injection, gradually increasing the amount of milk, which must always be slowly sipped, until the patient is taking two or three quarts of milk a day. He has had a large experience with this neurosis of the stomach, and found that it never occurred except in persons who were overworking or worried. Several were students preparing for examinations.

18. **Treatment of Chronic Rheumatism.**—Besides the treatment of the acid fermentation as outlined above, Robin attacks the essentially rheumatic element with a mixture of .05 sodium arseniate and 5 gm. potassium iodid in 300 gm. distilled water. A tablespoonful of this is taken on waking and before dinner for eight days. He then replaces it with sodium salicylate or piperazin or sidonal, resuming the arseniate mixture at the end of eight days, and so on, alternately in eight-day periods. The symmetry of rheumatic lesions and the frequent trophic disturbances indicate that the nerves are also involved in the process. To stimulate the spinal cord he applies the conical cautery along the spine and gives a nerve tonic, alternating strychnin with the hypophosphites in eight-day courses. He prefers to order the strychnin in the form of tincture nux vomica with one-fourth tincture of illicium twice a day after eating. He prescribes the hypophosphites in an elixir: .05 each of the hypophosphite of calcium, sodium, potassium and magnesium; .01 each of quinin and iron; .001 of strychnin and 1 gm. of Stoughton's elixir; two tablespoonfuls a day. His prescription for the glycerophosphates is still more complicated: calcium glycerophosphate, 3 gm.; sodium, potassium and magnesium phosphate, each 1 gm.; of iron, .5; tincture nux vomica, .5; pepsin, 3 gm.; maltine, 1 gm.; extract of kola, 5 gm. and syrup of cherries q. s. for ten tablespoonfuls. Dose one tablespoonful in the middle of lunch and dinner. General treatment is supplemented by gentle local massage of surrounding muscles, and hot air, electric, mineral or mud baths. To test the benefit of the mud baths he has his patients take a course with a single bag of the mud before sending them to the natural baths.

22. **Treatment of Hemoptysis and of Hemorrhage in General.**—In treating severe hemorrhage Robin first injects in the wall of the abdomen about 20 c.c. of a solution of 20 gm. gelatin in a quart of water containing 7 gm. salt. At the same time he gives ergotin and calcium chlorid internally. If these measures fail, he substitutes the official "eau de Rabel," an alcoholic solution of sulphuric acid. If this fails, he gives .05 digitalis leaves combined with .05 ipecac, five to six of these pills a day until nausea but not vomiting is induced. If the patient is dyspeptic he orders a solution of 2 gm. ferric chlorid in 120 gm. boiled water and 30 gm. syrup, giving a tablespoonful every two hours with the sulphuric acid at the intermediate hour.

27. **Pseudo-Lobar Pneumonia.**—Rosenthal has observed four cases of pulmonary "enterococcie," two of which proved fatal. It induces a peculiar variety of broncho-pneumonia which commences with a phase of ordinary broncho-pneumonia, followed by retrogression of the lesions except for some pseudo-lobar focus. The protracted course of the affection agrees with what we know of the unusually long life of the enterococcus. General symptoms predominate; there is slight hyperthermia as the functional signs of the localization in the lung become attenuated. The cachexia suggests that of pulmonary phthisis. The recognition of this severe form of enterococcus infection of the lung suggests the necessity for specific serum treatment.

45. **Influence of Total Retention of Urine on Gravid and Non-Gravid Animals.**—Blumreich has previously established that the brain of pregnant women is peculiarly sensitive to the action of some poisons. He now relates experiments with animals which demonstrate that certain poisons do not affect the brain during pregnancy any differently from their effect on it at other times. The sum total of the uremic irritations can be included in this group. The lesions found in the liver and blood in eclampsia do not coincide with those found in pure uremia, and consequently it can be discarded from the etiology of eclampsia. The poison inducing it must be sought among the substances in the blood, urine or nervous system which have a specific gravido-toxic action, that is, affect only or principally gravid individuals.

40. **Origin of Eclampsia.**—Müller explains eclampsia as the result of the action of micro-organisms on the decaying material in the genital cavities. The toxins thus formed are virulent and the conditions favor their immediate absorption into the system. The indications for treatment include hot baths and packs to stimulate diaphoresis, diversion of some of the toxins through the intestines by inducing copious watery discharges, venesection and saline infusion, and measures to support the strength and ward off heart failure. Narcotics are not required.

49. **The Floating Lung Test.**—Hitschmann warns that the presence of gas-forming bacilli in the uterine cavity may generate gas bubbles in lungs that have never breathed.

57. **Operative Treatment of Essential Epilepsy.**—Winter writes from Finland that he has performed cervical sympathectomy in 8 cases of essential epilepsy. All were severe, chronic cases, generally accompanied by mental derangement. The epilepsy was in such a severe form that a cure was not anticipated, but the seizures became less frequent in every instance. The only patient completely cured was a year-old infant who had had a seizure every night for months, accompanied by unconsciousness and convulsions. He has had no recurrence for two years. Winter has collected 213 cases of essential epilepsy treated by resection of the sympathetic. The results were 6.6 per cent. cured; 13.9 per cent. very much improved to date; 18.9 per cent. temporarily improved. In 54.9 per cent. of the cases no effect from the intervention was apparent, and 7 died, but none from the operation *per se*. These results compare favorably with those obtained in 8000 cases treated medically alone. At Belefeld the number of cures was only 1.72 per cent. and of improvements, 3.35 per cent.; at Bethel, 7.7 cured and 22 per cent. improved.

62. **Treatment of Rupture of the Bladder Into the Peritoneum.**—Ledderhose calls attention to the fact established by both experimental and clinical research, that the peritoneum tolerates to a remarkable extent an inflow of urine if not associated with infection. An intraperitoneal rupture of the bladder may heal spontaneously, but if there are no signs of peritonitis in twelve to twenty-four hours, indicating the formation of an encapsulated peritonitic focus, then laparotomy and suture of the rupture is imperative. But if peritonitis has developed the case is already inoperable if the peritoneal sepsis is in an advanced stage. If the peritonitis is slight or moderate, a permanent catheter should be introduced and the result awaited. If the urine flows freely through the catheter then merely opening up one or several circumscribed pus pockets may be all the intervention required. Suture of the tear in the bladder is unnecessary. There are 36 cases on record of primary laparotomy with successful suture of the

bladder. In 34 other cases this procedure proved fatal to the patient. Walter of St. Petersburg had only 2 recover out of 8 thus treated. Ledderhose has had personal experience with 3 cases. In one, all the urine had poured into the peritoneum for fifty-six hours. After about a quart had been voided through the catheter, the accumulation in the peritoneum disappeared.

63. **Operative Treatment of Chronic Constipation.**—Franke advocates a laparotomy in every case after failure of other measures if there is increasing emaciation and weakness with severe progressive disturbances of the nervous system. He reports two cases and remarks that the indications for intestinal anastomosis have been now widened to include not only chronic obstipation, but also chronic diarrhea (colica mucosa and enteritis membranacea).

69. **Pathology and Treatment of Non-Malignant Gastric Affections.**—Petersen reviews 104 cases that have been received at Czerny's clinic since 1882. Only 125 patients were operated on, one three and one four times. Absolute indications for operative intervention are afforded by pylorus stenosis with severe mechanical insufficiency, progressive loss in weight, acute hemorrhage and suspicion of cancer. Relative indications, that is, after failure of medical measures, are severe atonic mechanical insufficiency, severe gastralgia and uncontrollable vomiting (in case of a fresh ulcer, ulcer scar, perigastritis, adhesions) and chronic hemorrhage. The stenosis recurred in one case two and in another five years after the operation.

70. **Cancer of the Rectum.**—Lieblein states that 18 out of 47 patients with cancer of the rectum operated on at Wölfler's clinic, are alive and well to-day, out of a total of 98 cases. Four of the 9 deaths were from wound infection, notwithstanding the advantages of Wölfler's parasacral incision and extensive resection.

74. **Permanent Cure of Cancer.**—(See editorial, August 2, p. 261.) Labhardt says that when a person has been operated on for cancer he is all his life exposed to the danger of recurrence although the chances diminish as the interval lengthens. Of 112 recurrences on record after the third year, 14 were of the rectum, 5 of the tongue, 26 on the lip, and 11 on other organs. The corresponding late metastases were from the mamma 10, rectum 1 and lip 1.

78. **Salve Dressings.**—Honsell recommends 1 per 1000 sublimate lanolin as the most effective antiseptic dressing where such is needed. After lying twenty-four hours in infected bouillon it is still able to check the growth of bacteria when transferred to a second bouillon. None of the other salves and pastes tested could compare with it.

84. **Present Status of Cryoscopy.**—Roeder attributes great value to the determination of the freezing-point as a diagnostic measure. It should be supplemented in dubious cases with tests of the electric conductibility. The value of these tests is suggested by Van t'Hoff's theory in regard to solutions and that of Arrhenius in regard to electrolytic dissociation. Combination of the two can not fail to elucidate many clinical problems.

86. **Treatment of Scarlet Fever with Turpentine.**—Tobeitz has used turpentine in the treatment of 136 cases of scarlet fever during the last two and one-half years. He is convinced that it is a harmless remedy while he found that it absolutely prevented nephritis and cured existing albuminuria. He injected 1 c.c. of oil of turpentine into the thigh and then two days later gave 25 drops internally. In some cases he injected 1 c.c. of the oil in one thigh and the same amount the next day in the other, following the day after with 20 drops internally.

91. **The Treatment of Cancer with Cancroin.**—The preceding issue of the *Wochenschrift* contained a report by Adamkiewicz, listed by title in our Index, claiming the cure of six cases of cancer, two of which had been diagnosed and declared inoperable by Nothnagel and Eiselsberg. The latter in this issue disclaim this fact and quote from their notes to the effect that the cases in question were merely treated medicinally with the suspicion of possible cancer. Poten reports negative results in 2 inoperable cases in which he tried the cancroin, and Schultenstein had a similar experience. [An article in the *St. Petersburg Med. Wochft.* of May 31, reports that a patient with extreme stenosis of the esophagus from a carcinomatous growth was kept in a relieved condition under the influence of cancroin for six months, enabling her to eat ordinary food. The author, Kretzmer, continued the injections of cancroin commenced by Adamkiewicz, the patient receiving about fifty in all to date of writing. He is convinced that the effect of the cancroin was unmistakably beneficial in this instance. He has also had occasion to observe one of Adamkiewicz's patients who died three months after leaving Vienna with suspension of the injections. Adamkiewicz believes, Kretzmer states, that the cancer cell itself is the parasite of cancer—a protozoon which he calls coccidium sarcolytes. He is convinced that fresh cancer cells contain a toxin which has a specific action on the centers of the medulla oblongata. An aqueous solution of this toxin derived from fresh cancer cells is what he calls cancroin, but as it is difficult to procure it in sufficient amounts, and as the essential principle of the cancer cell seems to be cholin, from which neurin can be dissolved out, he experimented with neurin and found that possessed the identical attributes of the fresh cancroin. He therefore proposes and uses for the treatment of cancer the citrate of neurin. It is derived from the trimethylvinylammonium-oxyhydrate base by saturation with phenol and neutralization with citric acid, afterwards diluting with two to eight times water. It is injected in sound tissue.—ED.]

102. **Klebs' Tuberculocidin.**—Jessen has administered the tuberculocidin in thirty-six cases of tuberculosis, and states that essential improvement was evident in 63.9 per cent. All in the first stage were cured, and 54 per cent. of the 11 in the second, and 36 per cent. of the 11 in the third stage. It was not entirely free from by-effects. Temperature was observed in a few and repeated hemoptysis followed its administration in two instances. On the whole, however, it deserves more general adoption, he thinks, as it certainly neutralizes to a certain extent the toxin and thus gives the organism a chance to defend itself.

104. **The Hemophotograph.**—The results of 120 comparative tests with this and the Fleischl-Miescher hemoglobinometer show that the former can be satisfactorily used in place of the more expensive and complicated instruments now in vogue. (See THE JOURNAL of July 26, p. 230.)

105. **Algae Cause of Green Tint of Vomit.**—Kühn reports three cases of ulcer of the stomach in which the matters vomited were stained with green. This was supposed to be due to admixture of bile, as usual, but examination disclosed that the green substances were cells of a plant, probably of the family of algæ. The growth of the plant was promoted *in vitro* by the addition of hydrochloric acid.

106. **Psychogenic Pseudo-Meningitis.**—Starck's patient was a merchant, about 31 years of age, who had frequented the clinics since boyhood on account of lupus of the face. His case is on the records of several hospitals since the attacks of pseudo-meningitis developed. It was seven times diagnosed as tubercular or epidemic genuine meningitis, and other times as tumor cerebri, hydrocephalus, acute traumatic tetanus or caries of the spine. Starck was the first to recognize and cure the existing attack as a psychogenic pseudo-meningitis. He has found 18 similar cases in the literature, but none so severe and characteristic. All were women but one. The only case on record which was diagnosed from the first as a pseudo-meningitis proved to be tubercular. The differentiation should be based on other indications of hysteria, the absence of signs of tuberculosis elsewhere, as in young persons tubercular meningitis is usually secondary. The fever in pseudo-meningitis is seldom high and varies remarkably. The general health remains excellent even when the attack is long protracted. Emaciation never occurs as in a tuberculous affection, and convulsions are more predominant in the latter. The lack of cardiac or vascular disturbances, of manifestations of nephritis and arteriosclerosis excludes uremia. The prognosis

quoad vitam is good. Treatment has been hitherto directed generally against the meningitic symptoms, which is the wrong line to pursue. Psychic measures are necessary. In 2 cases, including the present one, the existing attack was completely cured by hypnosis, and in a third case by a pilgrimage to Lourdes, advised by the physician, Labadie-Lagrave. The patient left her litter, entirely restored to health, before she had touched the waters. In the present case the autosuggestion to meningitis will require very powerful measures probably to overcome it permanently.

113. **Local Treatment of Leprosy.**—Unna uses either pyrogallol or caustic potash in inunctions. Each should be accompanied by continuous administration of hydrochloric acid to prevent injury to heart and blood corpuscles. Chaulmoogra oil is the best drug for general treatment, supplemented by very hot baths with caustic soda in the water. The bacilli contain so much fat that a favorable influence from the hot water seems rational and is realized. Local hot baths are preferable when possible. Energetic gymnastic exercises with an elastic exerciser before meals have also a favorable effect in improving the general health and promoting absorption of lepromata. Fever has also a beneficial influence. It might be possible to utilize this fact and induce an aseptic fever. The use of tuberculin is not advisable. In a recent case after marked improvement had been attained with potash inunctions, he administered thiosinamin to aid in the reabsorption of the lepromata. After a few injections black and blue spots developed on face and limbs and all the cicatricial patches softened and ulcerated with deep necrosis. The pulse was weak, temperature subnormal and the patient was prostrated. She was sustained with digitalis, camphor, etc., and the general condition soon improved and all the ulcerations healed rapidly, without keloid tissue, so that there is not a remnant to be seen of the former extensive tuberous cutaneous lepra.

114. **Serum Treatment of Acute and Chronic Articular Rheumatism.**—Menzer succeeded in isolating the streptococcus from nearly every one of 100 cases of articular rheumatism either acute or chronic. It is therefore generally, but not exclusively, a streptococcus affection, and serum treatment is rational and has proved effective in his experience. He derives the serum from large animals immunized by progressive doses of an ascitic-bouillon culture of streptococci freshly derived from the tonsils of rheumatic subjects. The serum has demonstrated both antibacterial and antitoxic action, and subcutaneous injection of it in a patient with chronic articular rheumatism induces fresh inflammation in the affected joints, never in the sound ones. This does not occur after injection of normal or Marmorek's serum, but with the specific serum it is observed in other streptococcus infections as well as in articular rheumatism. On account of its bacteriolytic properties the serum causes inflammation and sends up the temperature when first injected. It transforms a chronic into the acute form of articular rheumatism, and induces a simultaneous local reaction wherever the streptococci are ensconced. As soon as this reaction subsides the patient enters upon convalescence. He has treated twenty-five acute and a large number of chronic cases of articular rheumatism in this way with great success. No by-effects of any consequence were observed.

123. **Action of Iron in Latent Malaria.**—Riva-Rocci noticed that apparently cured cases of malaria frequently had a relapse after administration of iron. Cova has been investigating the subject and found that the iron evidently roused and dislodged malaria germs still lingering ensconced somewhere in the tissues. It drove them out into the circulation, where renewal of the quinin treatment soon destroyed them and accomplished a permanent cure. Administration of iron therefore is an important diagnostic measure to reveal whether there is still latent malaria lurking in the system. He describes three typical cases to demonstrate the reaction after iron. It follows more rapidly the stronger the preparation employed.

126. **Hydro-Electric Dilator for the Urethra.**—Viana's instrument is like a urethral sound split lengthwise in half. The two halves are inserted fitted close together. By turning a thumb screw in the handle the halves spread apart, parallel, to the desired distance. They are hollow and fenestrated to allow the passage of water or an antiseptic solution, and as they are made of metal they conduct the electric current.

Correction.—Abstract of report of case of apyretic typhoid fever, p. 342, in THE JOURNAL of August 9. The line "Perforation occurred in both" should read: Perforation occurred twice.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending August 2:

Asst.-Surgeon R. C. Holcomb, to duty at Naval Hospital, New York.

Surgeon E. R. Stitt, report to the Surgeon-General for duty at the Naval Museum of Hygiene and Medical School, Washington, D. C.

P. A. Surgeon C. D. Langhorne, from the Naval Hospital, Philadelphia, to duty at Naval Hospital, Port Royal, S. C.

P. A. Surgeon S. G. Evans, detached from the Naval Hospital, Port Royal, S. C., and ordered to Naval Hospital, Norfolk, Va.

P. A. Surgeon F. L. Pleadwell, detached from the *Kearsarge* and to temporary duty on the *Sylph*.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Aug. 2, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, July 5-12, 1 case; Sacramento, July 12-19, 4 cases; San Francisco, July 6-23, 2 cases.
Colorado: Denver, July 12-19, 1 case.
Illinois: July 19-26, Belleville, 3 cases; Chicago, 2 cases.
Indiana: Indianapolis, July 12-26, 13 cases.
Kansas: Wichita, July 12-26, 2 cases.
Kentucky: Covington, July 19-26, 4 cases.
Massachusetts: Boston, July 19-26, 7 cases, 2 deaths; Cambridge, July 19-26, 6 cases, 3 deaths; Everett, July 19-26, 3 cases, 1 death; Lowell, July 19-26, 2 cases, 1 death; New Bedford, July 30, 1 case; Newton, July 19-26, 1 case.
Missouri: Carthage, May 1-July 10, 30 cases; St. Joseph, July 19-26, 13 cases; St. Louis, July 20-27, 11 cases.
Nebraska: Omaha, July 19-26, 11 cases.
New Hampshire: Nashua, July 19-26, 2 cases.
New Jersey: Camden, July 12-26, 3 cases; Hudson County, including Jersey City, July 20-27, 8 cases; Newark, July 19-26, 6 cases, 1 death.
New York: New York, July 19-26, 11 cases, 3 deaths.
Ohio: Cincinnati, July 18-25, 3 cases; Cleveland, July 19-26, 19 cases, 4 deaths; Hamilton, July 19-26, 2 cases; Toledo, July 12-26, 5 cases.
Pennsylvania: Altoona, July 21-28, 1 case; Johnstown, July 19-26, 2 cases; McKeesport, July 12-19, 2 cases, 2 deaths; Philadelphia, July 19-26, 4 cases, 1 death; Pittsburg, July 19-26, 25 cases, 1 death; Scranton, July 12-19, 3 cases.
Texas: San Antonio, June 1-30, 1 case.
Utah: Salt Lake City, July 12-26, 8 cases, 1 death.
Wisconsin: Green Bay, July 20-27, 1 case; Milwaukee, July 19-26, 4 cases.

SMALLPOX—INSULAR.

Porto Rico: To June 15, Arecibo, 381 cases, 1 death; Bayamon, 3 cases; Caguas, 71 cases; Camuy, 121 cases; Ciales, 6 cases; Corozal, 2 cases; Fajardo, 1 case; Hatillo, 5 cases; Humacao, 1 case; Isabela, 9 cases; Lares, 3 cases; Ponce, 128 cases; San Juan, 110 cases; Utuado, 79 cases.

SMALLPOX—FOREIGN.

Canada: St. John, July 19-26, 1 case.
Colombia: Panama, July 14-21, 2 cases.
Egypt: Cairo, June 17-July 1, 1 death.
France: Paris, June 28-July 12, 1 death.
Great Britain: July 5-12, Birmingham, 2 cases; Dundee, 6 cases; Gateshead, 5 cases, 1 death; Liverpool, 3 cases; London, 51 cases, 13 deaths.
Italy: Naples, June 28-July 5, 3 cases.
Mexico: City of Mexico, July 6-13, 1 case.
Russia: Moscow, June 28-July 5, 6 cases, 5 deaths; St. Petersburg, June 28-July 5, 4 cases; Warsaw, June 21-July 5, 3 deaths.
Straits Settlements: Singapore, May 18-June 7, 2 deaths.
Uruguay: Montevideo, June 11-26, 93 cases, 9 deaths.

YELLOW FEVER.

Colombia: Panama, July 14-21, 3 cases.
Costa Rica: Port Limon, July 10-17, 2 cases.
Mexico: Coatzacoalcos, June 28-July 5, 4 cases; Vera Cruz, July 12-19, 7 cases, 4 deaths.

CHOLERA.

China: June 17, Changchow, Chinkiang, Hankchow, Kiangyin, Shanghai, Soochow, Wusieh, epidemic.
Japan: Formosa, to June 27, 11 cases, 5 deaths; Moji, July 22, present; Nagasaki Ken, to June 27, 3 cases, 2 deaths; Saga Ken, to June 27, 47 cases, 26 deachs; Tokyo Fu, to June 27, 5 cases, 3 deaths.
Straits Settlements: Singapore, May 17-June 7, 136 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, July 19-20, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

China: June 5, Choanchew, Tongan, epidemic.
France: Dunkirk, June 11-13, 2 deaths on S. S. *City of Perth*, from Calcutta, etc.